

EXHIBIT A

DECLARATION OF GAVIN W. SKOK
- (2:17-CV-01860-RAJ) - 4

Fox Rothschild LLP
1001 FOURTH AVENUE, SUITE 4500
SEATTLE, WA 98154
206.624.3600

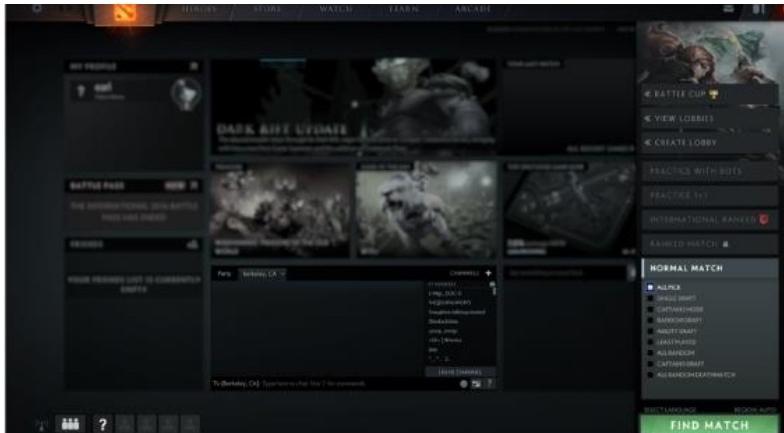
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
<p>1. A method of collecting data from an information network in response to user choices of a plurality of users made while accessing said information network and navigating character-enabled (CE) network sites on said information network, said method comprising:</p>	<p>The preamble is not limiting, and therefore need not be applied and mapped to the accused Dota 2 game. The following summary provides background for the application of the claims to the Dota 2 game, and in some instances the evaluation of claim limitations which follow may refer to the summary below.</p> <p>Dota 2 operates through the Steam platform, which integrates servers for multiple games with multiple servers that support the “Steam economy” which permits the buying and selling of in-game content developed by Valve, third parties, and users. <i>See</i> http://store.steampowered.com/about/; VALVE_TH_0000001-005, VALVE_TH_0000247-250.</p> <p>Dota2 employs the Source 2 Engine. http://www.dota2.com/reborn/part3; http://dota2.gamepedia.com/Mechanics. The Source 2 Engine operates network sites, including the CE network sites for Dota 2. <i>Id.</i></p> <p>Some features of the Steam platform can be accessed via an application program interface (“API”) that is accessible using the Internet. Information such as the number of current players of a given game, the profiles of each player, and the characters and items are available via this API. https://dota2api.readthedocs.io/en/latest/index.html. At least some of the servers comprising the Steam platform operate on the Internet and/or are accessible over the Internet, which is an information network.</p> <p>The Source Engine operates network sites. “Multiplayer games based on the Source Engine use a Client-Server networking architecture. Usually a server is a dedicated host that runs the game and is authoritative about world simulation, game rules, and player input processing. A client is a player’s computer connected to a game server. The client and server communicate with each other by sending small data packets at a high frequency (usually 20 to 30 packets per second). A client receives the current world state from the server and generates video and audio output based on these updates. The client also samples data from input devices (keyboard, mouse, microphone, etc.) and sends these input samples back to the server for further processing.” <i>See</i> https://developer.valvesoftware.com/wiki/Source_Multiplayer_Networking</p> <pre> graph LR subgraph Internet [Internet (UDP)] direction TB S1[Snapshot Tick 125] --> S2[Snapshot Tick 120] end S1 --> C[Client @ Tick 115
- Samples input 33 times per second
- Buffers snapshots for 100 milliseconds] C --> UI1[User Input Tick 105] C --> UI2[User Input Tick 110] UI1 --> S2 UI2 --> S2 </pre>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>Some of the functions or components may include the following:</p> <ul style="list-style-type: none"> • One or more Econ servers. To engage the network, a user, typically operating on a client machine located remotely from one of several Econ servers, logs onto an Econ server using the user's "steamid." • An Account Manager (AM) or AM server on which a user profile is located. • The "Game Coordinator" or "GC" (or sometimes "Game Coordinator Host" or "GCH") hosts game-specific server code. For example, the TF2 item server is hosted as a GC. • The "Market" server manages listings in the Steam Community Market. • The "Operational Game Stats" or "OGS" server contains statistics and data in relation to Valve games, such as playtime total for maps, rounds played, etc. It is also used for "experiment" support. • A Connection Manager handles connections from client machines and is the principal manager of traffic from the Internet. <p>Dota 2 sites are character-enabled. They provide audio and visual image presentation of characters that are tailored to the character's persona and which have selectable character attribute data, as determined by a user.</p> <p>Dota 2 includes multiple CE-enabled network sites as there are multiple servers for placing a user into an instance of the game. See, e.g., VALVE_TH_00000117-124. A Game Master Server (GMS) maintains a list of currently running Servers for source games, such as Dota 2. VALVE_TH_0002127. An exemplary list of Dota 2 servers is shown below, with corresponding IP addresses.</p> <div style="border: 1px solid black; padding: 10px; background-color: #2e3436; color: white;"> <p>Here are the list of IP and Address of Dota 2 Servers:</p> <ul style="list-style-type: none"> • syd.valve.net - Australia (Sydney) • 200.73.67.1 - Chile (Santiago) • dxb.valve.net - Dubai (UAE) • vie.valve.net - Europe East 1 (Vienna, Austria) • 185.25.182.1 - Europe East 2 (Vienna, Austria) • lux.valve.net - Europe West 1 (Luxembourg) • 146.66.158.1 - Europe West 2 (Luxembourg) • 116.202.224.146 - India (Kolkata) • 191.98.144.1 - Peru (Lima) • sto.valve.net - Russia 1 (Stockholm, Sweden) • 185.25.180.1 - Russia 2 (Stockholm, Sweden) • sgp-1.valve.net - SE Asia 1 (Singapore) • sgp-2.valve.net - SE Asia 2 (Singapore) • cpt-1.valve.net - South Africa 1 (Cape Town) • 197.80.200.1 - South Africa 2 (Cape Town) • 197.84.209.1 - South Africa 3 (Cape Town) • 196.38.180.1 - South Africa 4 (Johannesburg) • gru.valve.net - South America 1 (Sao Paulo) • 209.197.25.1 - South America 2 (Sao Paulo) • 209.197.29.1 - South America 3 (Sao Paulo) • lad.valve.net - US East (Sterling, VA) • eat.valve.net - US West (Seattle, WA) </div> <p>Dota 2 servers are further listed and described at VALVE_TH_0000339-46 (particularly at 42-43).</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>Users can navigate to various sites on the network. In addition to the employment of different servers as noted above, the user can navigate from the Dota2 home page to a variety of game servers by selecting FIND MATCH (see button at lower right in the image below) and then Dota 2 finds an appropriate server on which to play the selected type of match.</p>  <p>Dota 2 engages a plurality of users. See the screen shot below, indicating the number of players currently, and at various points in time.</p> 

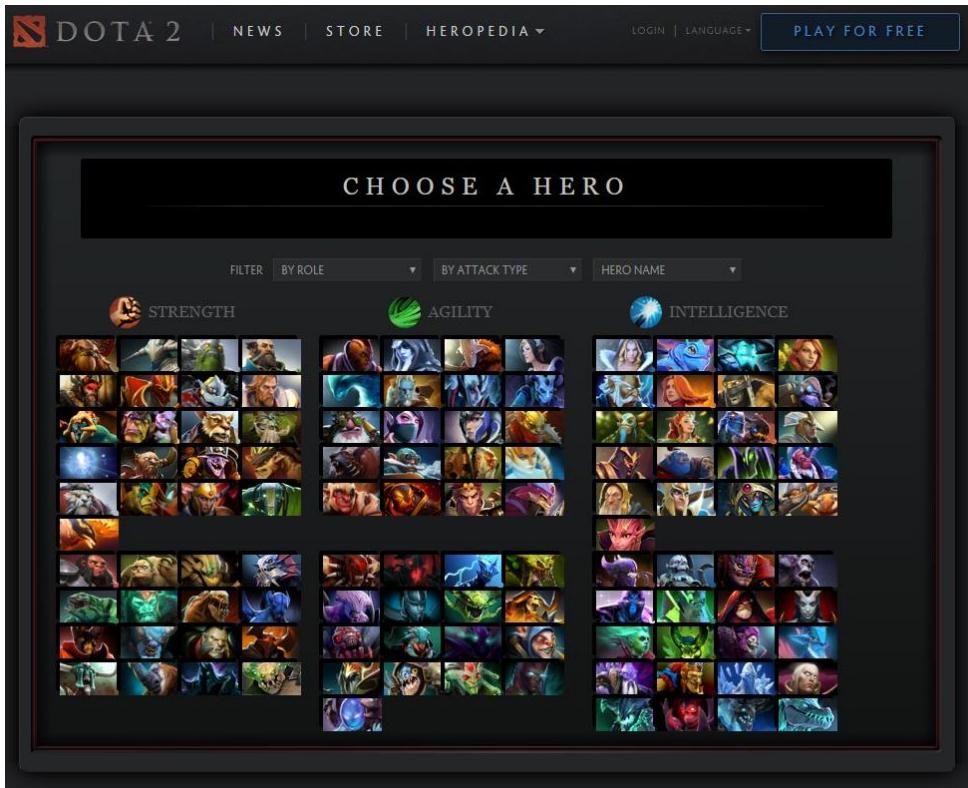
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
<p>storing a plurality of character data in a database accessible by said CE network site;</p>	<p>“The Steam Economy is our name for a set of features that allow in-game items from multiple games to work together in a single shared system in Steam. In-game items in the Steam Economy can be purchased via microtransactions, earned from Steam Achievements, delivered in-game, or granted in response to various kinds of promotions. Users can view their in-game inventories in the Steam Community, include links to items in chat sessions, and trade items with other users. Steam provides the user-interface and the heavy lifting for these features, but leaves the game itself in complete control of the items themselves.” VALVE_TH_0001324-26.</p> <p>“In-game items in the Steam Economy are called <u>Assets</u> and can represent anything a user can own in a game. Some examples are ...<u>character</u>...” <i>Id.</i> (emphasis added).</p> <p>“In order to add a game to the Steam Economy a few requirements must be met. The game must have an asset back-end that is not stored on the game client. Some kind of <u>database</u> that lives in a datacenter will be required.” <i>Id.</i></p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>

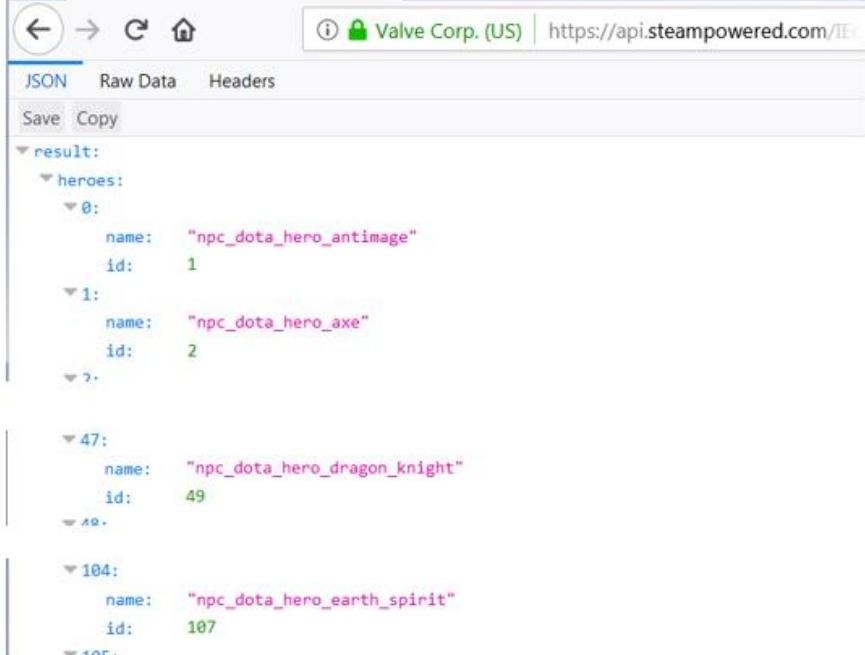
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<p>“Each game implements the Steam Asset API to provide Steam’s Economy Server with limited access to a user’s persistent item store for that game.” <i>Id.</i></p> <p>Steam uses a variety of “Get” commands to retrieve, or access, character (and other) data so that it is accessible by the CE network site. <i>Id.</i></p> <p>“The Economy Server acts as a gateway for other Steam servers to the Asset API implementations provided by the games included in the economy. It is also responsible for tracking trades as they happen and recording the audit history for trades. The Economy Server doesn’t store any of the data for a user’s assets directly. That is the job of the per-game Asset Servers. The Economy Server stores meta-data about what items players own as well as the audit history for all trades.” <i>Id.</i></p> <p>“Secure cross-game trading is presented to the user via a web front end. This trading UI can be accessed by users either in the in-game overlay or directly via a web browser. Assets from any game participating in the economy can appear in this UI. A game’s Asset Server provides the economy server with snippets of HTML to render for each tradable item and the trading UI merges those into a single page.” <i>Id.</i></p> <p>“The economy section of the Steam support site also uses the Economy Server to query each Asset Server about a user’s assets. For most games the support site is able to see the full set assets owned by a player...A game that participates in the economy is also able to provide some or all of a user’s asset inventory for display in that user’s Steam Community Profile...The Game Coordinator for each Valve Game is that game’s Asset Server in the Steam Economy. Valve games have a mostly-common code base that allows them to share the back-end persistence technology across multiple games.” <i>Id.</i></p> <p>The Game Coordinator hosts game-specific server code, such as that for Dota 2. VALVE_TH_0007045. The character data described above is accessible by the Game Coordinator.</p> <p>Each asset in the Steam Economy is identified by the combination of three numbers: App ID, Context ID, and Asset ID. It is up to each Game Controller to determine what the 64-bit context ID means for its assets as the hero is employed in game play.</p> <p>The characters in Dota2 are also called “Heroes” [REDACTED] [REDACTED] The Dota 2 game includes a plurality of heroes stored in the database; Steam refers to the game as comprising a battle in which</p>

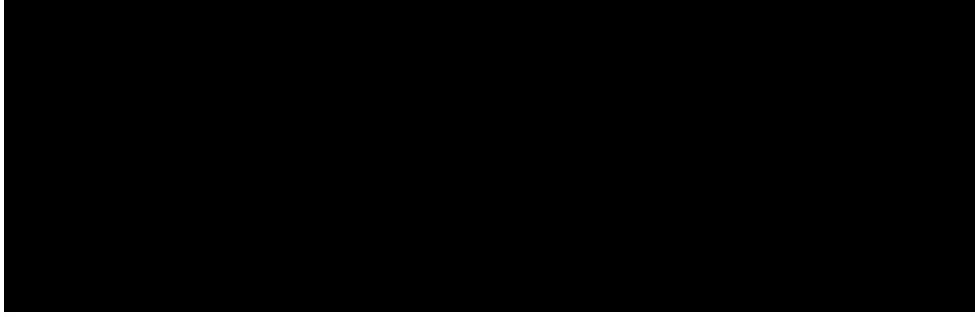
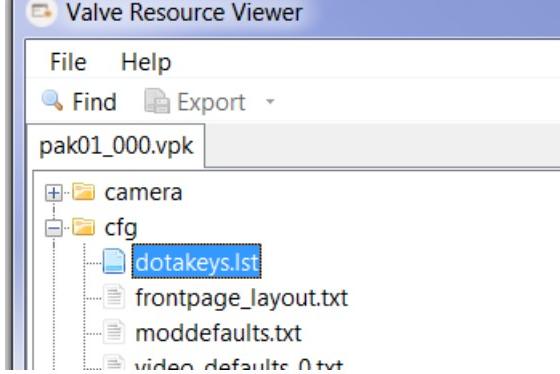
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>players “enter battle as one of over a hundred Dota heroes.” See below, from http://store.steampowered.com/app/570/Dota_2/</p>  <p>Dota 2 offers users the ability to choose a hero (or character) from among a plurality of possible stored heroes (or characters). See below, from www.dota2.com/heroes/</p> 

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>The character data is accessible from its stored location through the Web API, as indicated above, using GetHeroes commands:</p> <p>Result data</p> <pre> result heroes List of heroes. name The tokenized string for the name of the hero. id ID of the hero. localized_name The localized name of the hero for use in name display. count Number of results. </pre> <p>Source: Dota 2 API documentation: https://wiki.teamfortress.com/wiki/WebAPI/GetHeroes</p> <p>The GetHeroes Web API call lists character data information for Dota 2 characters, or Heroes:</p>  <pre> { "result": { "heroes": [{"name": "npc_dota_hero_antimage", "id": 1}, {"name": "npc_dota_hero_axe", "id": 2}, {"name": "npc_dota_hero_dragon_knight", "id": 49}, {"name": "npc_dota_hero_earth_spirit", "id": 107}] } } </pre> <p>Source: https://api.steampowered.com/IEconDOTA2_570/GetHeroes/v0001</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<p>Dota 2 also causes Asset data (including character data) to be stored locally, on the user's computer or device, so that it is also accessible from the user's computer or device when the user plays the game or otherwise accesses parts of the Steam Economy that might want access to the data as shown below. The file structure for character data (and character attribute data) is contained on the Asset Server and is replicated on the client device as described below.</p> <p>A hero model for Dota 2 is created using a prescribed format, such as the Maya model file. See VALVE_TH_0000085-88. The model breaks characters into separate components or pieces [REDACTED]</p>  <p>Valve uses key-value format to store metadata for character and character attribute data in a database. The key-value format is a database format. The screen display below shows the file dotakeys.lst, which is a VPK (Valve Pak) file.</p>  <p>The above dotakeys.lst file includes within it a list of heroes, including for example the hero known as "Earth Spirit" as shown in the code below from the file:</p>

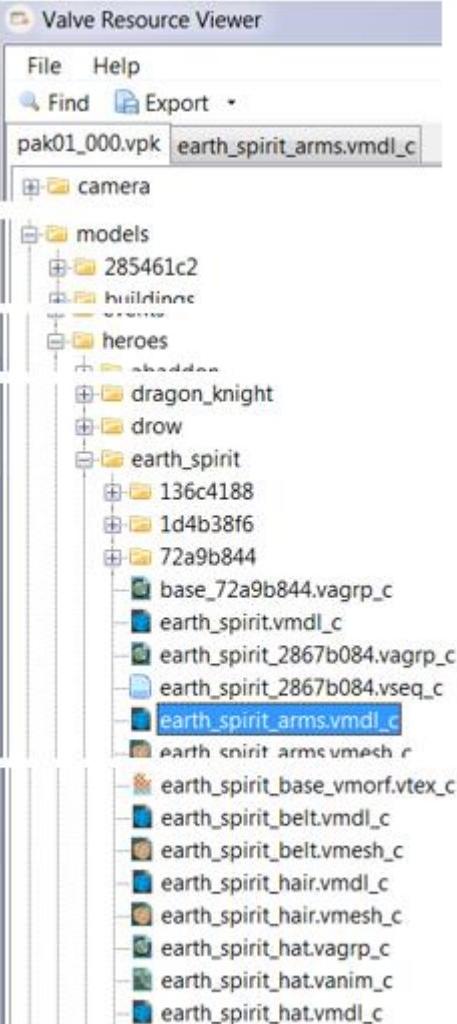
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<pre> "npc_dota_hero_earth_spirit" { // Ability "AbilityPrimary1" { "Key" "D" } "AbilityPrimary2" { "Key" "F" } "AbilityPrimary3" { "Key" "R" } "AbilitySecondary1" { "Key" "E" } "AbilitySecondary2" { "Key" "W" } "AbilityUltimate" { "Key" "T" } } "npc_dota_hero_legion_commander" { </pre> <p>Similarly, for another hero, the “Dragon Knight,” the data appears in the dotakeys.lst VPK file as:</p> <pre> "npc_dota_hero_dragon_knight" { // Ability "AbilityPrimary1" { "Key" "F" } "AbilityPrimary2" { "Key" "T" } "AbilityPrimary3" { "Key" "D" } "AbilitySecondary1" { "Key" "" } "AbilitySecondary2" { "Key" "" } "AbilityUltimate" { "Key" "R" } } </pre> <p>The database further includes character data sufficient to render chosen characters, or heroes. As noted above, the data is broken into separate components, generally under a “model” folder, and in the case of characters or “heroes” a “heroes” subfolder. Within that subfolder, further subfolders are generally created by hero name, with separate component files contained within the subfolders. [REDACTED]</p> <p>[REDACTED]</p>

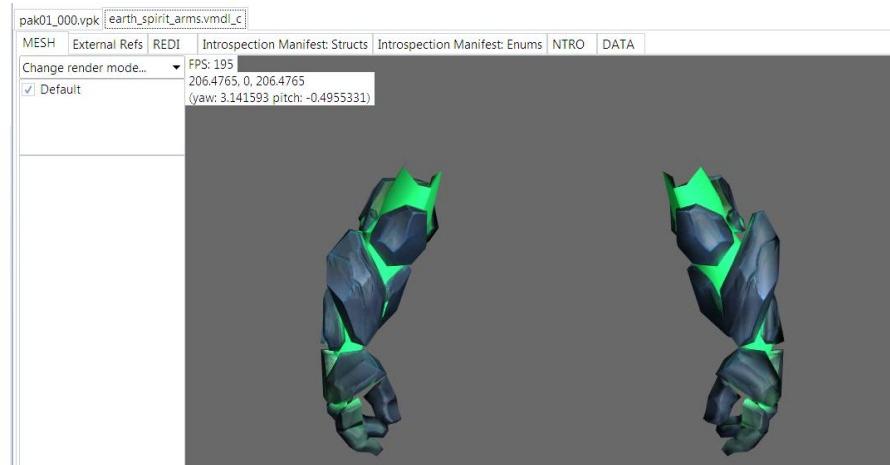
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<p>Similarly, for example, the Earth Spirit character includes a series of subfolders and files to allow the character to be rendered, such as those shown below (partially truncated for ease of presentation). As an example, the earth_spirit_arms.vmdl_c file is highlighted below.</p>

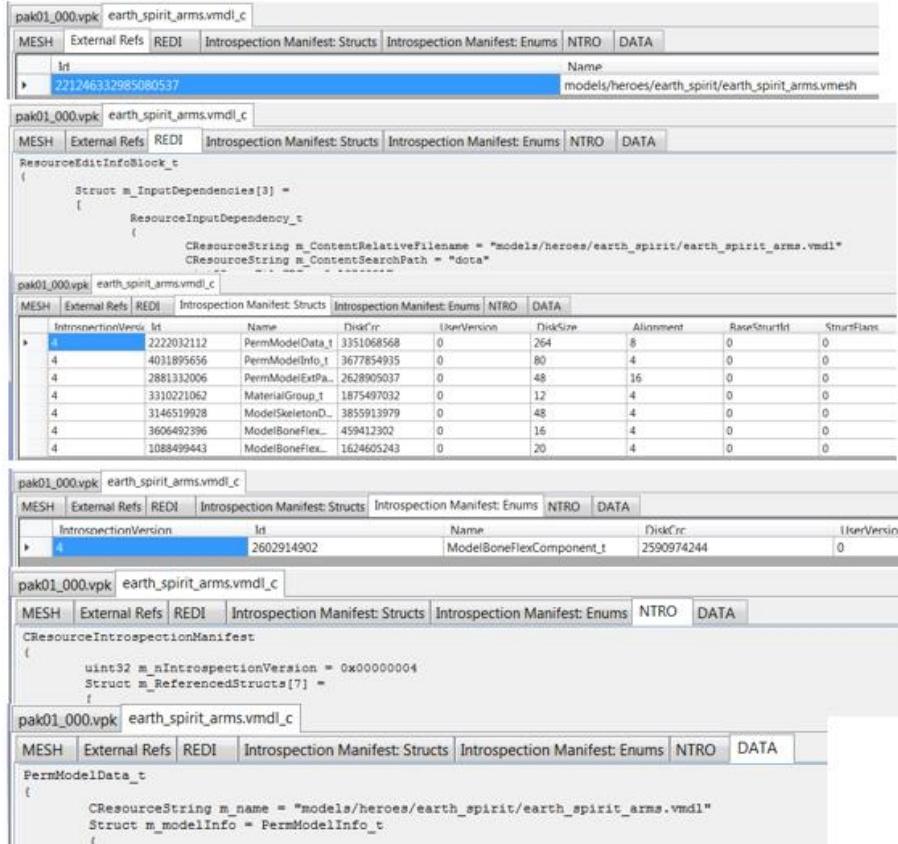
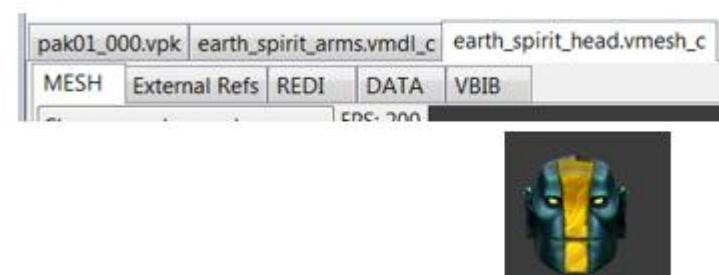
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	 <p>The screenshot shows the 'Valve Resource Viewer' interface. The top menu bar includes 'File', 'Help', 'Find', 'Export', and a dropdown set to 'pak01_000.vpk'. Below the menu is a search bar containing 'earth_spirit_arms.vmdl_c'. The main pane displays a hierarchical file tree under the 'models' folder. The 'heroes' folder contains sub-folders for 'dragon_knight', 'drow', and 'earth_spirit'. The 'earth_spirit' folder contains sub-folders for '136c4188', '1d4b38f6', and '72a9b844'. The '72a9b844' folder contains numerous files, with 'earth_spirit_arms.vmdl_c' highlighted in blue.</p>

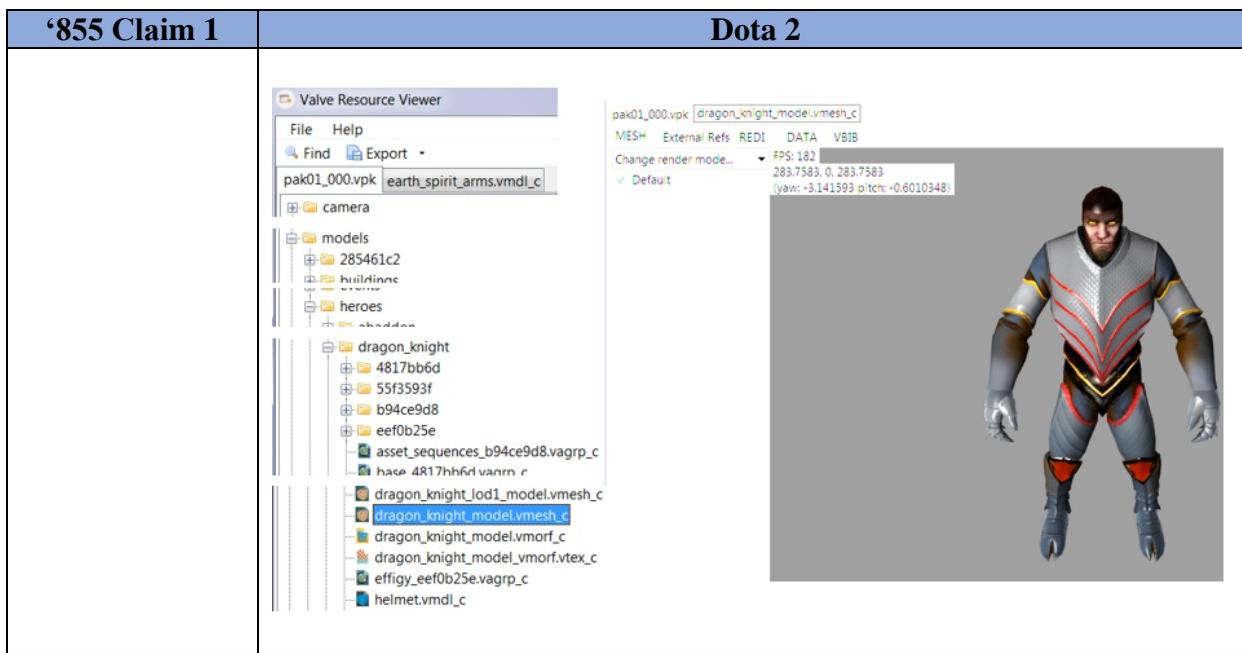
The related Earth Spirit arms model from the highlighted file is shown below:



CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>Other data related to the model of the Earth Spirit arms from the above file, for example, is shown below.</p>  <p>Similarly, for example, the Earth Spirit head file, earth_spirit_head.vmesh.vmdl_c, is shown below:</p>  <p>The entire character is a composite from the separate component renderings.</p> <p>As another example, files for another character, in this case, the Dragon Knight, are shown below, with exemplary files at the left and a rendering at the right:</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE



CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
storing a plurality of character-attribute data in said database;	<p>Dota2 also stores character attribute data in the database. The attribute data is stored in the Asset Servers within the Steam Economy, and replicated locally, in a manner as described for the limitation above.</p> <p>Character attribute data is shown in the form of renderings presented to users, such as in the screen below showing an Earth Spirit character next to possible character attributes:</p> 

The Web API allows access to the character attribute database using a GetSchema:

URL

http://api.steampowered.com/IConItems_{ID}/GetSchema/v0001/?key=<API key>

See the ID list for a valid ID. You can get an API key [here](#).

Result Data

result

status

The status of the request, should always be 1.

items_game_url

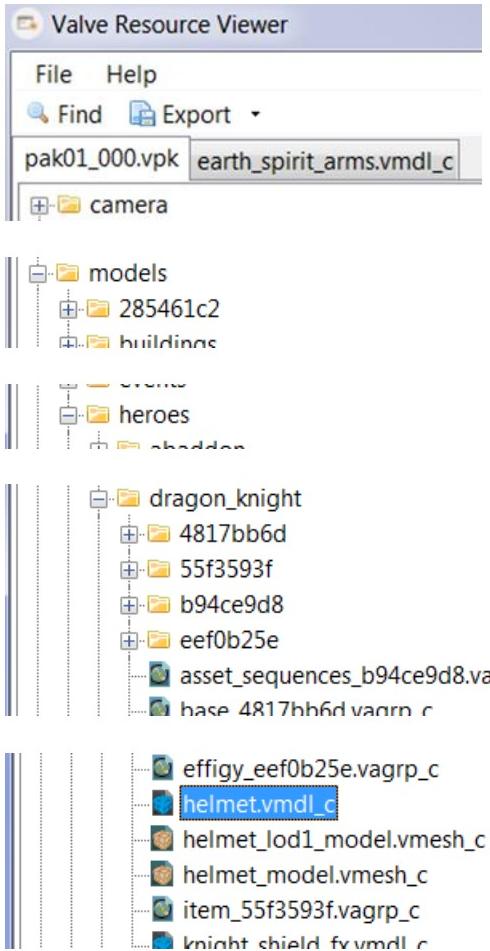
A string containing the URL to the full item schema as used by the game.

qualities

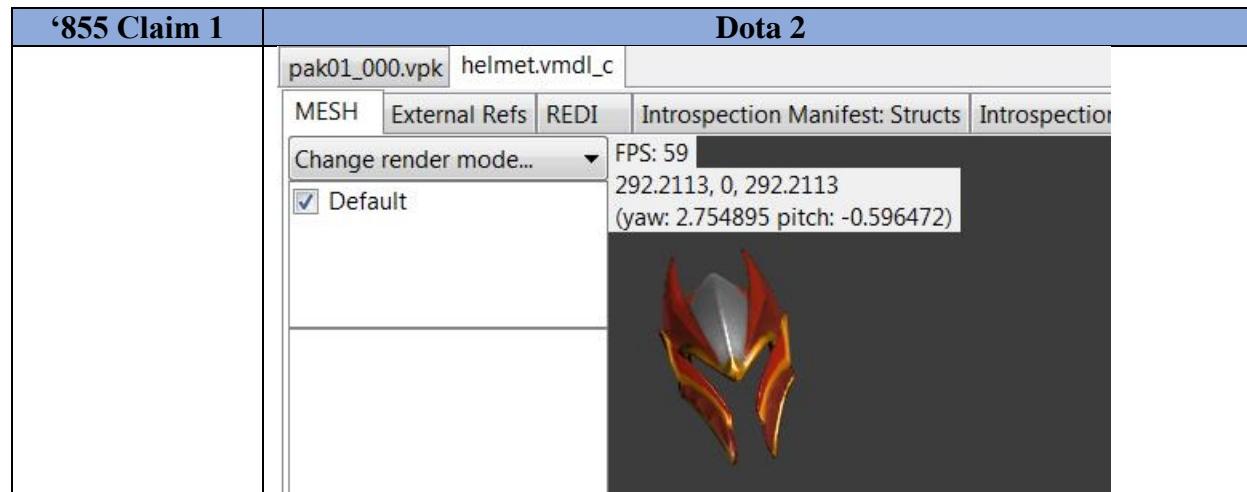
An object containing the numeric values corresponding to each "quality" an item can have:

[normal \(0 - Normal\)](#)

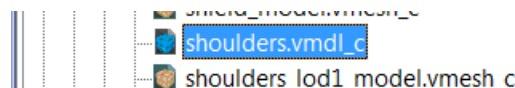
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>items A list of item objects.</p> <p>name A string that defines the item in the items_game.txt</p> <p>defindex The item's unique index, used to refer to instances of the item in GetPlayerItems.</p> <p>item class</p> <p>One specific example (among many, which are structured similarly, but not all of which are shown here) is for the Dragon Knight Helmet. The character attribute data for this item is stored in the manner illustrated below:</p>  <p>The stored data for the Dragon Knight Helmet includes the rendered model below:</p>

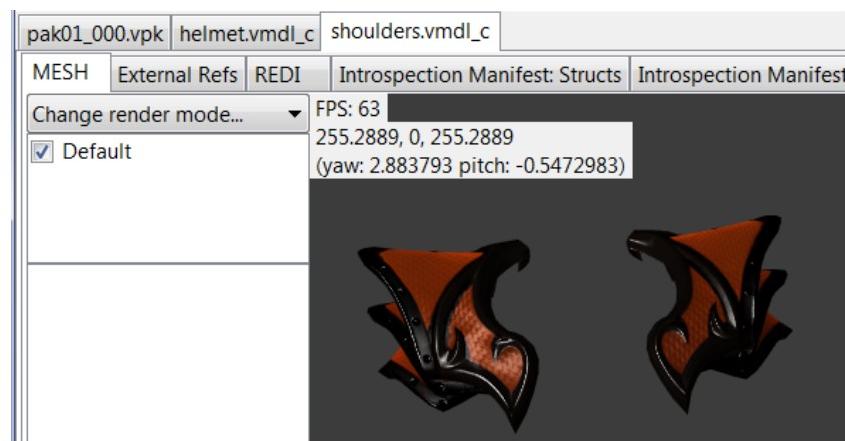
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE



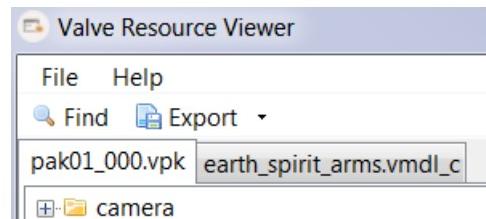
As another example, further down the list there is a directory for a shoulder model:



The shoulder model rendering appears as shown below:



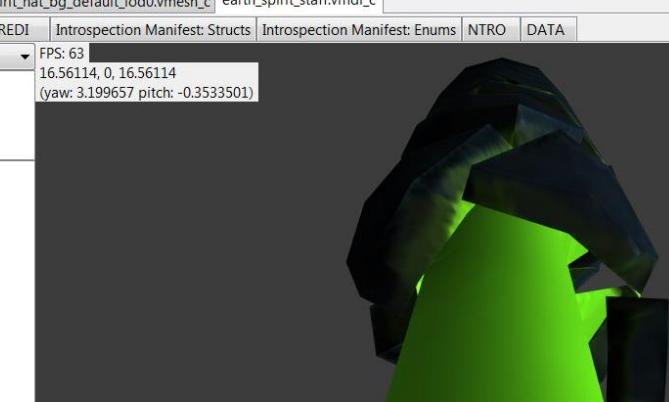
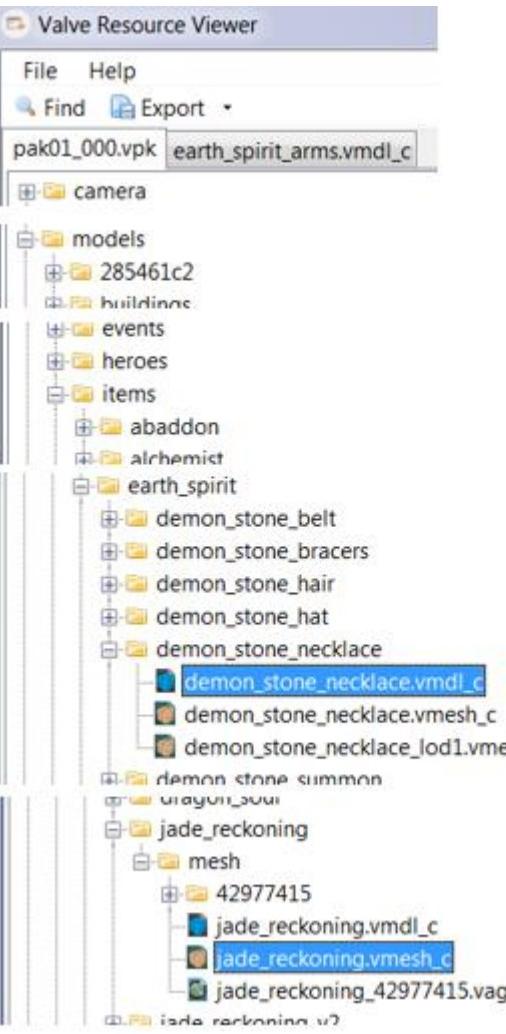
There are many possible character attributes stored in the database (again, in the manner as with character data, as described above). Another example of a character attribute is the Earth Spirit Hat, which is stored in the manner illustrated below:



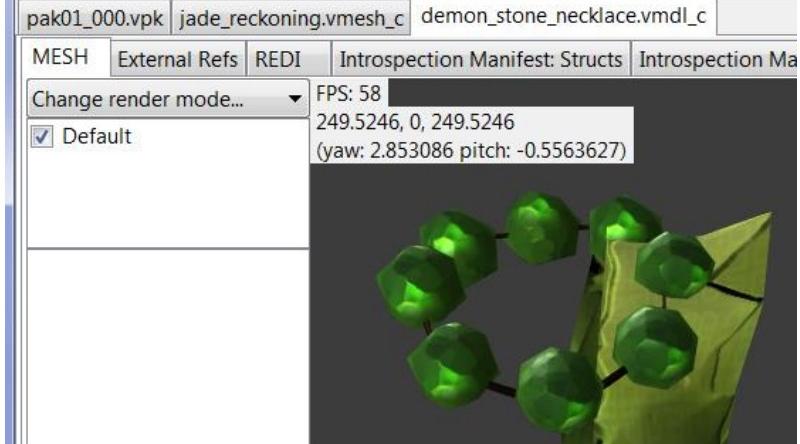
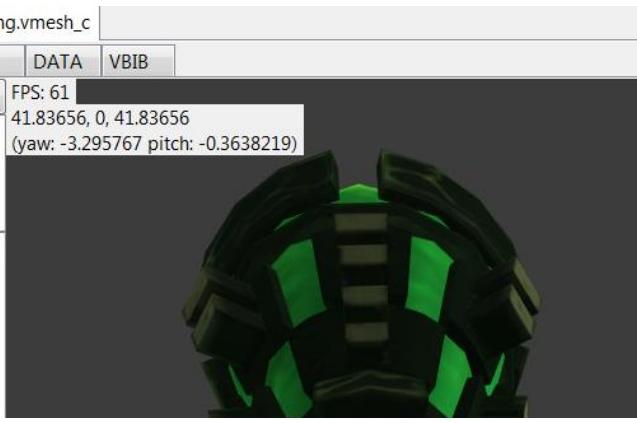
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>models</p> <ul style="list-style-type: none"> 285461c2 buildings <p>items</p> <ul style="list-style-type: none"> shaddan <p>earth_spirit</p> <ul style="list-style-type: none"> 136c4188 1d4b38f6 72a9b844 <p>base_72a9b844.vagrp_c earth_spirit.vmdl_c</p> <p>earth_spirit_hat.vseq_c earth_spirit_hat_bg_default_lod0.vmesh_c</p>
	<p>The rendered model of the Earth Spirit hat is shown below:</p>
	<p>As yet another example, in the same database shows character attribute data for the Earth Spirit Staff:</p> <p>earth_spirit_neck.vmdl_c earth_spirit_staff.vmdl_c</p> <p>The rendered Earth Spirit staff is shown below:</p>

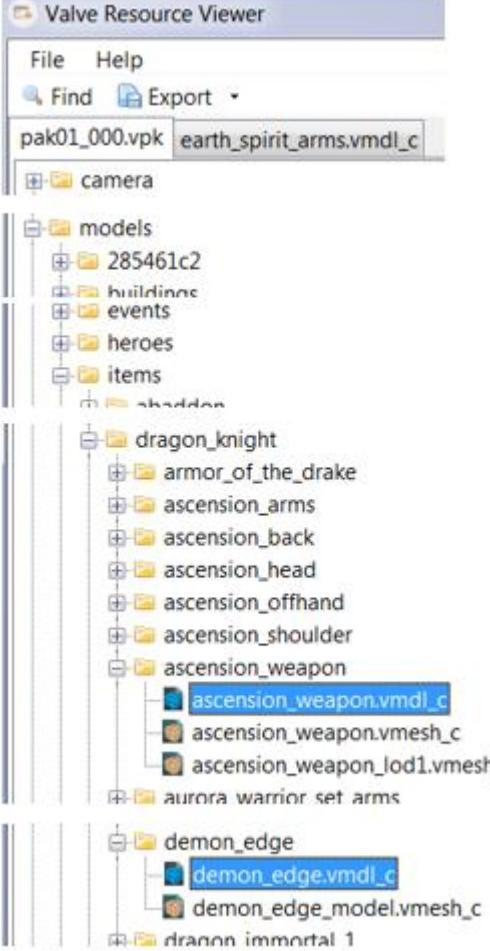
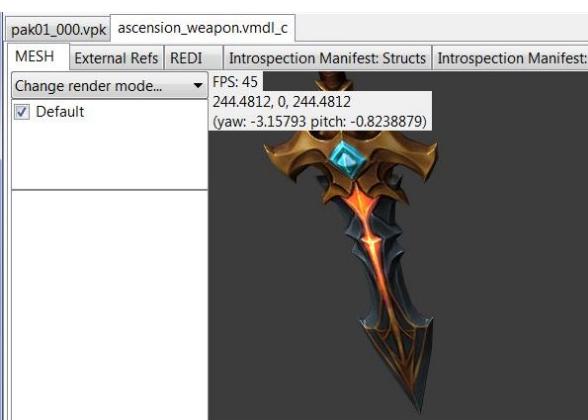
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	 <p>The screenshot shows a character model from the game Dota 2. The character is wearing a distinctive green glowing headpiece, identified as the "Earth Spirit Hat". The game's user interface is visible at the top, showing tabs for MESH, External Refs, REDI, Introspection Manifest: Structs, Introspection Manifest: Enums, NTRO, and DATA. A dropdown menu for "Change render mode..." is open, showing "Default" is selected. Below the interface, a FPS counter displays "FPS: 63" and provides coordinates: "16.56114, 0, 16.56114" and "yaw: 3.199657 pitch: -0.3533501".</p>
	<p>An additional example is the Earth Spirit Stone Necklace, and the Jade Reckoning Mesh shown below in the database:</p>  <p>The screenshot shows the Valve Resource Viewer interface. The left pane displays a tree view of files and folders. Under the "models" folder, there are several sub-folders: "285461c2", "building", "events", "heroes", "items", "abaddon", "alchemist", "earth_spirit", "demon_stone_belt", "demon_stone_bracers", "demon_stone_hair", "demon_stone_hat", "demon_stone_necklace", "demon_stone_summon", "jade_reckoning", and "mesh". The "demon_stone_necklace" folder is expanded, showing three files: "demon_stone_necklace.vmdl_c" (selected), "demon_stone_necklace.vmesh_c", and "demon_stone_necklace_lod1.vmesh_c". The "jade_reckoning" folder is also expanded, showing the "mesh" folder which contains the file "jade_reckoning.vmdl_c" (selected), "jade_reckoning.vmesh_c", and "jade_reckoning_42977415.vagrp_c".</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<p>The rendered necklace is shown below:</p>  <p>The screenshot shows the Dota 2 game interface with the file path "pak01_000.vpk/jade_reckoning.vmesh_c" at the top. The "MESH" tab is selected. A context menu is open over a green, glowing necklace mesh, displaying render mode settings: "Change render mode..." dropdown set to "Default", FPS: 58, coordinates (249.5246, 0, 249.5246), and orientation (yaw: 2.853086 pitch: -0.5563627).</p> <p>The Jade Reckoning Mesh is shown below:</p>  <p>The screenshot shows the Dota 2 game interface with the file path "pak01_000.vpk/jade_reckoning.vmesh_c" at the top. The "MESH" tab is selected. A context menu is open over a dark, textured mesh, displaying render mode settings: "Change render mode..." dropdown set to "Default", FPS: 61, coordinates (41.83656, 0, 41.83656), and orientation (yaw: -3.295767 pitch: -0.3638219).</p> <p>Yet other examples are two different Dragon Knight Swords, shown below</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	 <p>The swords are rendered as shown below:</p> 

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2

The Dota 2 game uses the same item schema as used in TF2, describing the overall schema and explaining that the client schema is stored locally on both the client and the server, such as described above.

Item schema

For more in-depth technical documentation pertaining to the Steam Web API and GetSchema, see [WebAPI](#).

The **item schema** is a resource in *Team Fortress 2* that defines all existing items and the attributes assigned to them. The item schema is accessed by the game client in various menus of the interface, including the *Mann Co. Store*, *Catalog* and the player's *backpack*. Each item in the schema is maintained as an object with varying key-value pairs denoting its name, its type and slot, classes that can equip it, and its capabilities (such as, whether it can be used with a *Paint Can* or *Name Tag*). All values are listed in detail at [WebAPI/GetSchema](#).

In addition to the standard item schema, the schema version pulled by the game client is known as the 'client schema'. The client schema is obtained in **VDF** format for parsing by the game engine, and includes other details not in the standard schema, such as equip regions, attached weapon sounds, and bodygroups for each item. Both versions of the item schema include definitions of all item attributes, item sets, particle effects and item levels and ranks for *Strange* weapons and cosmetics.

The client schema is stored locally on both the client and the server as **tf/scripts/items/items_game.txt**. The client and server load this copy of the schema on startup. Once connected, the item server sends the client and server a URL where the most recent schema can be downloaded, which the client and server then download and use. Subsequent updates to the schema are handled through the item server in this way. As of the October 15, 2014 Patch, *items_game.txt* is protected by a [digital signature](#) and neither the client nor the server will start up if it has been modified.

Source: https://wiki.teamfortress.com/wiki/Item_schema

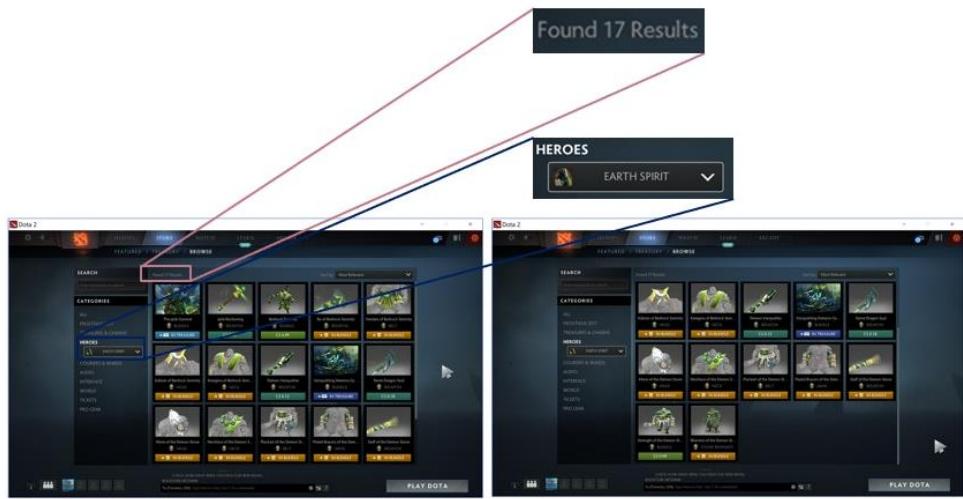
The locally stored data (typically stored in a location such as a *Steam\steamapps* folder on a local hard drive) is of the type shown below:

```

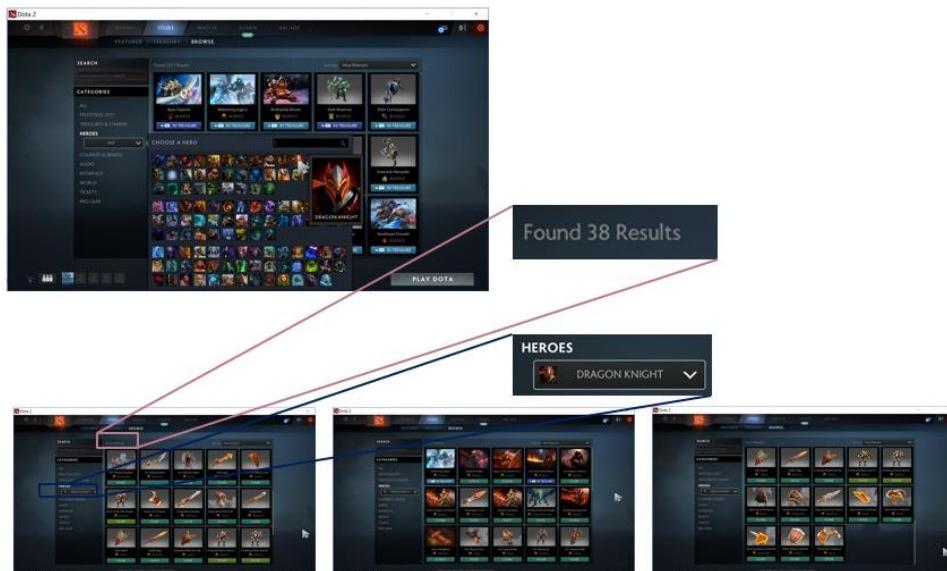
"lang"
{
    "Language"          "English"
    "Tokens"           {
        "DOTA_Bundle_Assemblage_of_Announcers_Pack"      "Assembly of Announcers Pack"
        "DOTA_Bundle_Bounty_Hunter_Big_Bundle"            "Bounty Hunter's Fat Haul"
        "DOTA_Bundle_Collection_of_Couriers_Pack"         "Collection of Couriers Pack"
        "DOTA_Bundle_DOTA2_Access"                         "Data 2 Invite"
        "DOTA_Bundle_Desc_Assemblage_of_Announcers_Pack"   "Includes the following o
        "DOTA_Bundle_Desc_Axe_Axecutioner"                 "Includes all of the items in the 'The Ax
        "nnta_Bundle_Necr_Axe_Berserker"                   "Includes all of the items in the 'The Re
    }
    "DOTA_Item_Desc_Jade_Reckoning"          "Lest millions of the mother's children believe t
    "nnta_Item_Desc_Indoornf"                "Long thought extinct, the last Indoornf that the
}

```

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
<p>linking the character attribute data with one or more of the character data;</p>	<p>As shown and described with reference to the two limitations above, the character and character attribute database is organized such that character attributes (for example, hats, swords, necklaces, mesh, etc.) are contained in sub-files or sub-folders tied to the characters (or heroes, such as Earth Spirit or Dragon Knight) that they are linked to.</p> <p>Among other things, the linkage of character and attribute data allows Dota 2 to show characters and possible attributes for that character adjacent one another, such as shown below:</p>  <p>Accessing characters in the Dota 2 store shows the linkage. For example, choosing the Earth Spirit Hero from a drop down menu shows character attribute data that is linked to it, such as shown below:</p> 

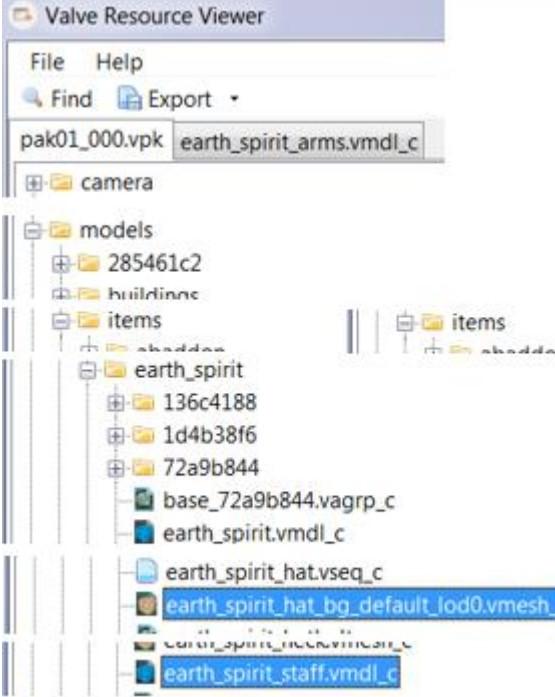
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>Similarly, the Dragon Knight character is linked to character attribute data, such as the 38 items indicated below:</p>  <p>Items belonging to a particular Hero are linked to the Hero by nesting them under the Hero to which they belong within the database.</p> <p>Default items, or character attributes (the ones with which the Hero is equipped by default) are listed in the format:</p> <p>“models/heros/hero_name/item_name...”</p> <p>Items which can be purchased separately or which are otherwise optional are listed under:</p> <p>“models/items/hero_name/item_name...”.</p> <p>See, for example, the following structures:</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2

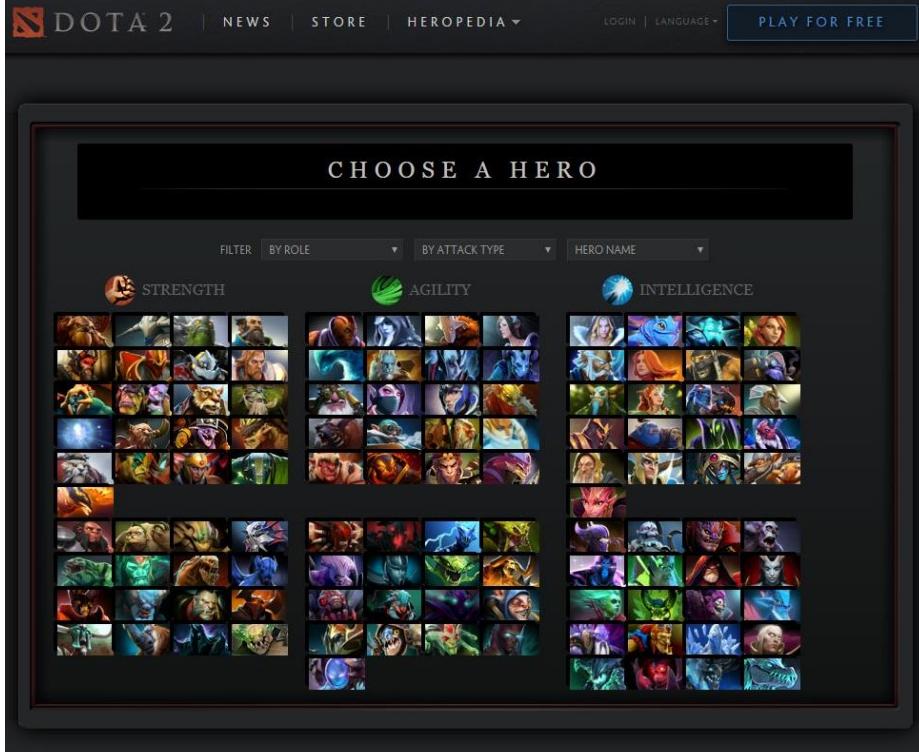
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	 <p>The screenshot shows the 'Valve Resource Viewer' interface. The left pane displays a tree view of files under 'models/earth_spirit'. Several files are highlighted in blue, including 'base_72a9b844.vagrp_c', 'earth_spirit.vmdl_c', 'earth_spirit_hat.vseq_c', 'earth_spirit_hat_bg_default_lod0.vmesh_c' (which is selected), and 'earth_spirit_staff.vmdl_c'. The right pane shows a preview of the selected mesh file.</p> <pre> "7935" { "name" "Jade Reckoning" "prefab" "wearable" "creation_date" "2016-05-20" "event_id" "EVENT_ID_INTERNATIONAL_2016" "image_inventory" "econ/items/earth_spirit/jade_reckoning_v2/mesh/jade_reckoning_v2" "item_description" "#DOTA_Item_Desc_Jade_Reckoning" "item_name" "#DOTA_Item_Jade_Reckoning" "item_rarity" "immortal" "item_type_name" "#DOTA_WearableType_Staff" "model_player" "models/items/earth_spirit/jade_reckoning_v2/mesh/jade_reckoning_v2.vmdl" "portraits" { "icon" { "cameras" { "Default" { "PortraitPosition" "57.253349 -166.845261 296.326630" "PortraitAngles" "64.065781 103.684799 50.399994" "PortraitFOV" "62.054001" "PortraitFar" "1000" } } "PortraitLightPosition" "-18.944868 -119.329781 378.517212" ... } } </pre>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 1	Dota 2
	<pre> } "used_by_heroes" { "npc_dota_hero_earth_spirit" "1" } "visuals" { "asset_modifier0" { "type" "activity" "" } }</pre> <p>Source: https://steamcdn-a.akamaihd.net/apps/570/scripts/items/items_game.ed87da2add5ca61cd4fefb12dcbb5a208cff256d.txt</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
<p>presenting to a user interface, one or more character data defining one or more characters for selection by the user;</p>	<p>Dota2 presents data relating to the more than 100 different Heroes, or characters, in a manner such as described above, in a presentation inviting a user to select one of the characters. For example, the following screen is presented to a user interface (e.g., a user's display monitor) in the game:</p>  <p>Dota 2 offers users the ability to choose a hero (or character) from among a plurality of possible heroes (or characters). See also, the presentation to the user below, from www.dota2.com/heroes/, expressly inviting the user to “choose a hero”:</p> 

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>A character may be selected either by clicking on a presented character, or by selecting one from a drop-down menu, such as shown below:</p>  

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
<p>upon selection of a character by the user, presenting in real time to the user interface, the selected character along with at least one of the character-attribute data linked to the selected character for selection by the user;</p>	<p>Dota 2 presents to the user the screens such as indicated in the preceding limitation showing a plurality of characters for selection by the user. Upon selecting a character by the user, Dota 2 presents in real time to the user interface the selected character along with at least one of the character-attribute data linked to the selected character for selection by the user.</p> <p>For example, upon selecting the Earth Spirit Hero, the following screen is presented in real time showing the character at the left and certain character attribute data at the right, in which the character attribute data is linked to the character and is presented for selection by the user. A similar screen appears for the other characters, if selected.</p> 

For example, the following screen appears after selecting Dragon Knight:



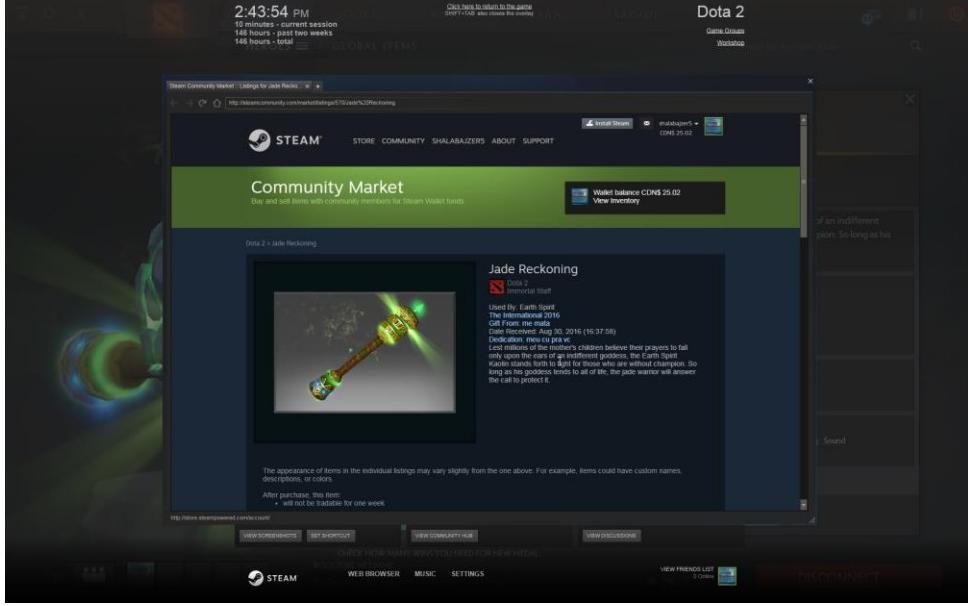
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
<p>upon selection of a character-attribute by the user, presenting in real time to the user interface, the selected character including the selected character attribute; and</p>	<p>A user may move his cursor over the possible character attribute choices, and upon mouse-over the character is shown in real time with the character attribute. See, for example, the screen display below in which the cursor has been placed over the Jade Reckoning and the Earth Spirit character is presented with the character attribute upon mouse-over.</p> 

Similarly, clicking on the character attribute results in presenting the character to the user together with the selected character attribute. For example, clicking on the Jade Reckoning attribute results in the screen display below:



CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>The above screen further includes a “market” button, which in the illustrated example states “Market C\$0.54.” Clicking on that button is received as an indication to purchase the item, which results in presentation of the following screen:</p>  <p>Eventually, if purchased, Dota 2 generates a confirmation as shown below.</p>  <p>At this point, the hero with its purchased attribute are further linked to the user in the user account within the Steam Economy as described above.</p>

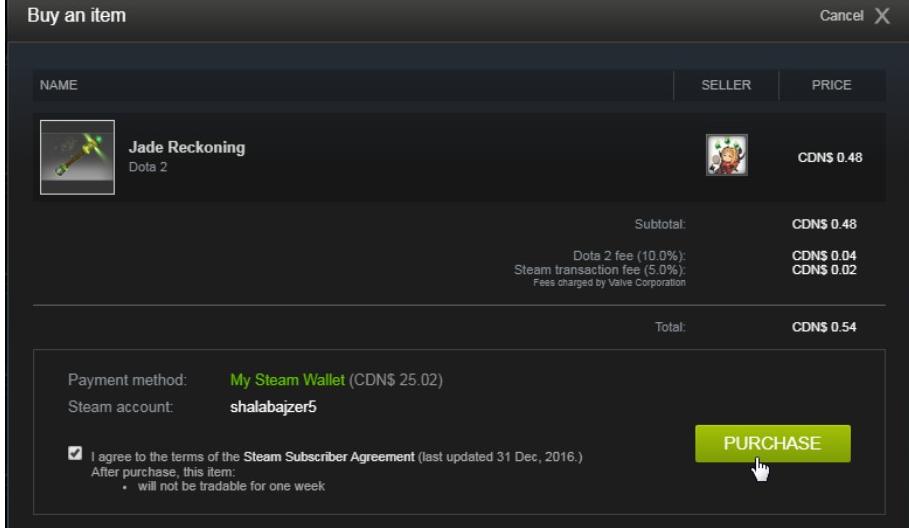
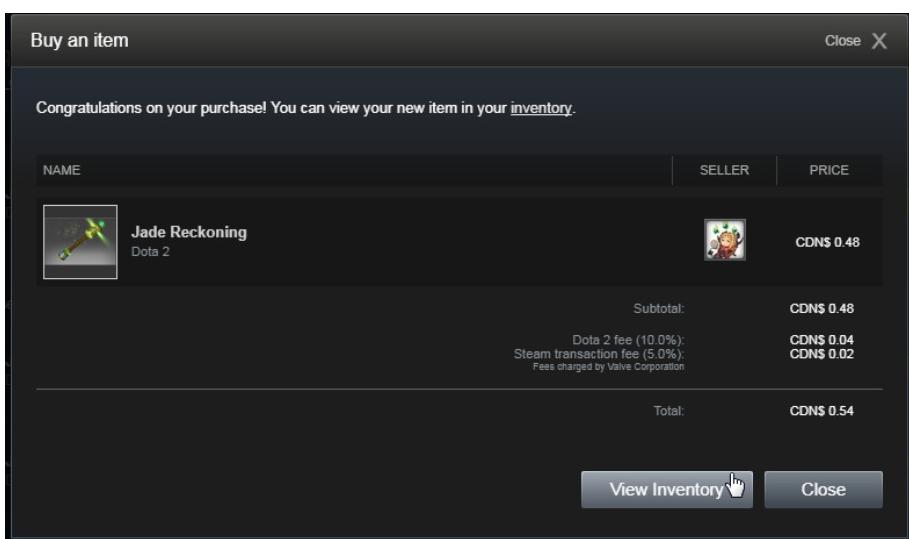
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
tallying the number of times the selected character attribute has been selected by a plurality of users.	<p>As part of the Steam Economy, Dota 2 tallies the number of times a selected attribute has been selected by a plurality of users. As one example, it tracks the top sellers for character attributes, which requires a tally. See the screen display below:</p> 

In addition, after indicating a desire to purchase an item, the user is presented with listings for the item, including the number of such listings:

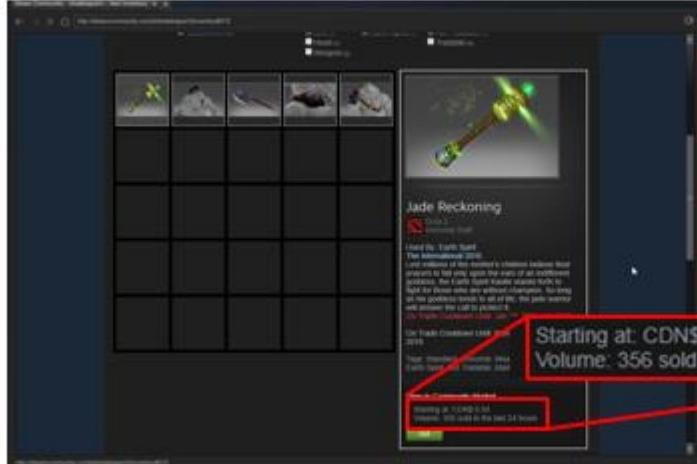
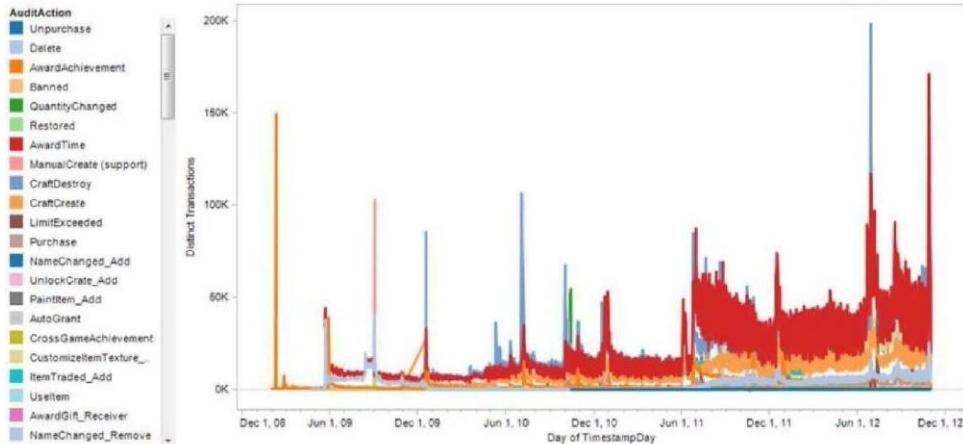
Listings																							
<p>Looking for a specific item? <input type="text" value="Search name, description, type"/> <input type="button" value="Search"/></p> <p>1823 requests to buy at CDN\$ 0.47 or lower View more details <input type="button" value="Place buy order..."/></p> <table border="1"> <thead> <tr> <th>NAME</th> <th>SELLER</th> <th>PRICE</th> </tr> </thead> <tbody> <tr> <td> Jade Reckoning Dota 2</td><td></td><td>CDN\$ 0.53</td><td><input type="button" value="Buy Now"/></td></tr> <tr> <td> Jade Reckoning Dota 2</td><td></td><td>CDN\$ 0.54</td><td><input type="button" value="Buy Now"/></td></tr> <tr> <td> Jade Reckoning Dota 2</td><td></td><td>CDN\$ 0.54</td><td><input type="button" value="Buy Now"/></td></tr> <tr> <td> Jade Reckoning Dota 2</td><td></td><td>CDN\$ 0.54</td><td><input type="button" value="Buy Now"/></td></tr> <tr> <td> Jade Reckoning Dota 2</td><td></td><td>CDN\$ 0.54</td><td><input type="button" value="Buy Now"/></td></tr> </tbody> </table>	NAME	SELLER	PRICE	 Jade Reckoning Dota 2		CDN\$ 0.53	<input type="button" value="Buy Now"/>	 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>	 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>	 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>	 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>
NAME	SELLER	PRICE																					
 Jade Reckoning Dota 2		CDN\$ 0.53	<input type="button" value="Buy Now"/>																				
 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>																				
 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>																				
 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>																				
 Jade Reckoning Dota 2		CDN\$ 0.54	<input type="button" value="Buy Now"/>																				
	<p>Choosing the “buy now” button for one of the above listings (for example, the top one) leads to the screen below:</p>																						

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	<p style="text-align: center;">Dota 2</p>  <p>The screenshot shows a 'Buy an item' dialog. At the top right is a 'Cancel X' button. Below it is a table with columns 'NAME', 'SELLER', and 'PRICE'. A thumbnail of the item is shown next to its name, 'Jade Reckoning' (Dota 2). The seller is represented by a small icon of a person with a sword. The price is listed as 'CDNS 0.48'. Below the table, the subtotal is 'CDNS 0.48', followed by 'Dota 2 fee (10.0%): CDNS 0.04' and 'Steam transaction fee (5.0%): CDNS 0.02'. The total amount is 'CDNS 0.54'. At the bottom left, it says 'Payment method: My Steam Wallet (CDNS 25.02)' and 'Steam account: shalabajzer5'. There is a checked checkbox for the 'I agree to the terms of the Steam Subscriber Agreement' and a note that 'After purchase, this item: will not be tradable for one week'. On the right side, there is a large green 'PURCHASE' button with a hand cursor icon pointing at it.</p>
<p>Selecting the purchase button above leads to the screen below:</p>  <p>The screenshot shows a 'Buy an item' dialog with a 'Close X' button at the top right. It displays a message: 'Congratulations on your purchase! You can view your new item in your inventory.' Below this is a table showing the purchased item: 'NAME' (Jade Reckoning), 'SELLER' (Dota 2), and 'PRICE' (CDNS 0.48). The subtotal, fees, and total are also listed. At the bottom are two buttons: 'View Inventory' with a hand cursor icon pointing at it, and a standard 'Close' button.</p>	

After selecting the “view inventory” button above, the following screen appears:

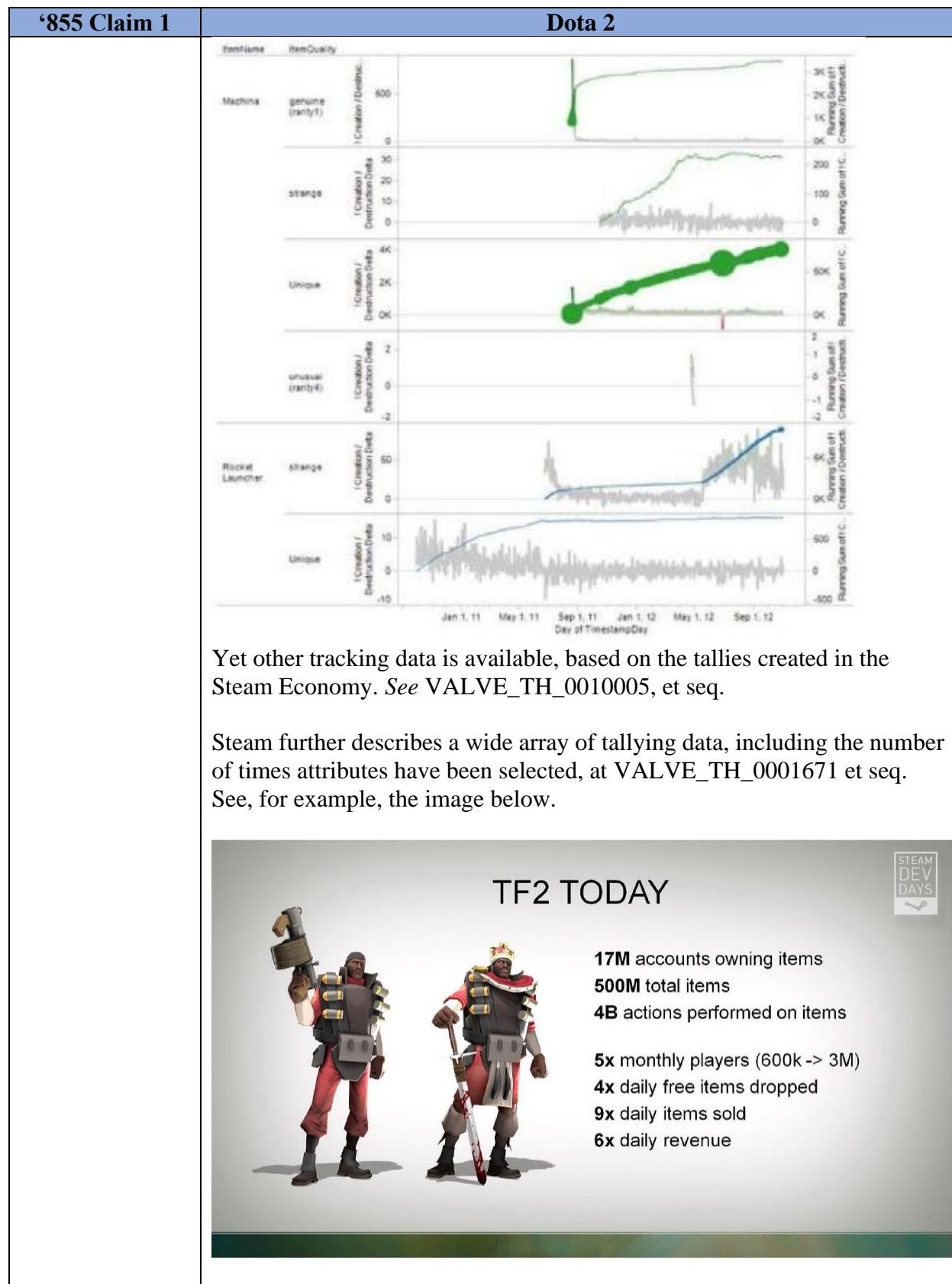
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	 <p>The screenshot shows a grid of items in the Steam Economy. A specific item, "Jade Reckoning", is highlighted. A red box highlights a tooltip for this item, which contains the text: "Starting at: CDNS 0.54" and "Volume: 356 sold in the last 24 hours".</p> <p>The above screen indicates the number of such items sold in the last 24 hours, which is a tally of such items for a plurality of users.</p> <p>Games using the Steam Economy, including Dota 2, also tally a wide range of events or transactions, including the number of times a selected character attribute has been selected by a plurality of users. See, for example, VALVE_TH_0010005, et seq., and the graph below.</p>  <p>The graph displays the total number of distinct transactions per day, from December 1, 08 to December 1, 12. The Y-axis represents the number of distinct transactions, ranging from 0K to 200K. The X-axis represents the day of the timestamp. The legend lists various audit actions: Unpurchase, Delete, AwardAchievement, Banned, QuantityChanged, Restored, AwardTime, ManualCreate (support), CraftDestroy, CraftCreate, LimitExceeded, Purchase, NameChanged_Add, UnlockCrate_Add, PaintItem_Add, AutoGrant, CrossGameAchievement, CustomizableTexture, ItemTraded_Add, UseItem, AwardGift_Receiver, and NameChanged_Remove. The graph shows several sharp peaks, notably around June 1, 09, December 1, 09, and December 1, 12, corresponding to specific events like purchases and deletions.</p> <p>The above graph shows total “distinct transactions” including (among others) the number of times purchases of items have been made. The accompanying description explains that it is possible to “drill down to select a specific item/color/quality/data point/anything...” <i>Id.</i></p> <p>As described above, further data for individual items, or attributes, can be collected and analyzed individually because it is tallied. The example below shows a history with respect to a particular chosen item, in this case the Mann Co. Key. In the upper graph, the brown line indicates the number of times the key was purchased over time. The olive drab color line</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 1	Dota 2
	<p>indicates the number of times the item was traded, and therefore selected by other users.</p> <p>A further chart, drawn from the Steam Economy data, shows the number of items added to or removed from the economy on a given day.</p> <p>Based on the data available in the economy, it is also possible to graph different quality levels for different versions of items over time, showing the number of times different versions of items were selected or used, such as in the chart below.</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE



**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 2	Dota 2
2. The method of claim 1 wherein the character data comprises at least one of audio data and visual image data.	<p>See claim 1 above, showing visual image data for character data, including for example data for Earth Spirit, Dragon Knight, and many other characters. The exemplary data files also showed visual image data, including renderings of such data.</p> <p>Characters in Dota 2 further include associated audio data, stored in the database as character data. [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>

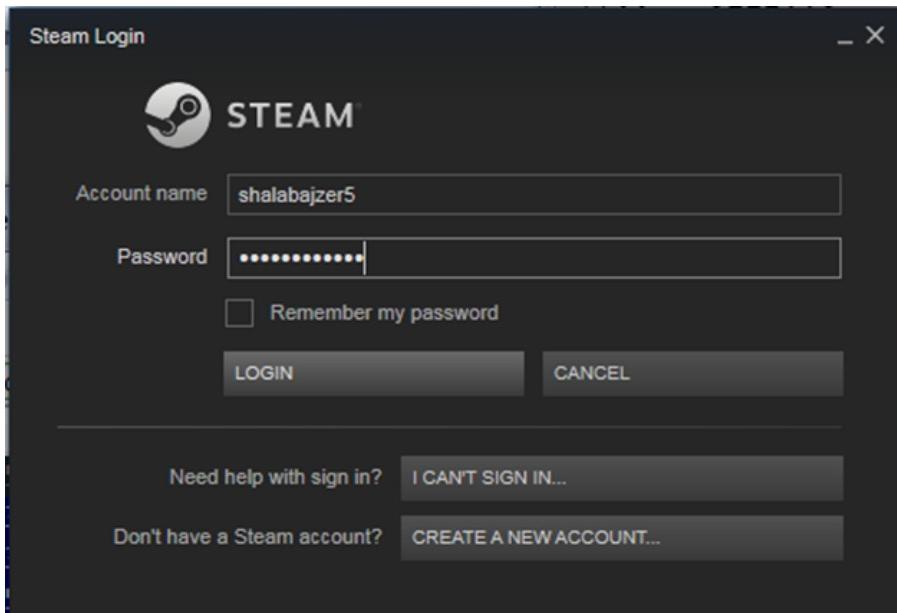
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 3	Dota 2
3. The method of claim 1, wherein the character-attribute data comprises at least one of audio data and visual image data.	See claim 1 above, showing visual image data for character attribute data, including several example character attributes. The exemplary data files also showed visual image data, including renderings of such data.

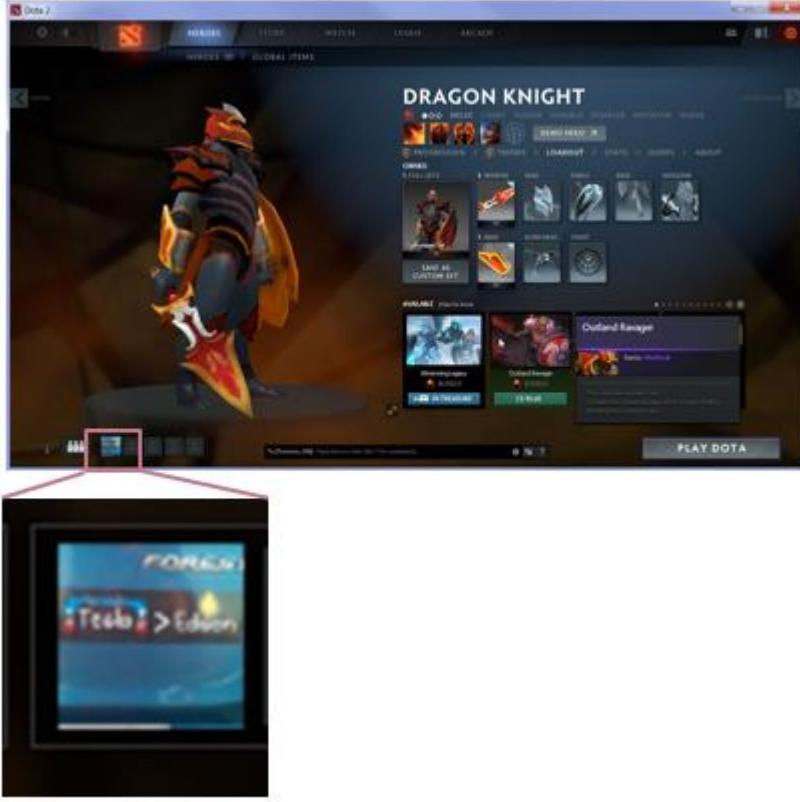
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 4	Dota 2
<p>4. The method of claim 1 further comprising:</p> <p>storing data in said database indicative of the selected character and selected character attribute, the selected character and selected character attribute collectively defining a character persona;</p> <p>storing a plurality of character-persona data;</p> <p>linking the character-persona data with one or more of the character-attribute data; and</p> <p>presenting to the user interface, one or more character-persona data linked to the character-persona.</p>	<p>See claim 1 above, particularly with respect to storage of character and character attribute data. Once the character and character attribute data have been selected, they are stored in the database as described above (explaining the storage within the Steam Economy, as well as the storage locally on the user device). Additional character persona data is also stored, linked with the character-attribute data, and presented to the user interface as described further below.</p> <p>The Steam Economy, and for Dota 2, stores data in the database indicative of the selected character and selected character attributes.</p> <p>“The Steam Economy is our name for a set of features that allow in-game items from multiple games to work together in a single shared system in Steam. In-game items in the Steam Economy can be purchased via microtransactions, earned from Steam Achievements, delivered in-game, or granted in response to various kinds of promotions. Users can view their in-game inventories in the Steam Community, include links to items in chat sessions, and trade items with other users. Steam provides the user-interface and the heavy lifting for these features, but leaves the game itself in complete control of the items themselves.” VALVE_TH_0001324-26.</p> <p>“Each game implements the Steam Asset API to provide Steam’s Economy Server with limited access to a user’s persistent item store for that game.” VALVE_TH_0003095-96.</p> <p>Steam uses a variety of “Get” commands to retrieve, or access, character (and other) data so that it is accessible by the CE network site. <i>Id.</i></p> <p>“The Economy Server acts as a gateway for other Steam servers to the Asset API implementations provided by the games included in the economy. It is also responsible for tracking trades as they happen and recording the audit history for trades. The Economy Server doesn’t store any of the data for a user’s assets directly. That is the job of the per-game Asset Servers. The Economy Server stores meta-data about what items players own as well as the audit history for all trades.” <i>Id.</i></p> <p>“Secure cross-game trading is presented to the user via a web front end. This trading UI can be accessed by users either in the in-game overlay or directly via a web browser. Assets from any game participating in the economy can appear in this UI. A game’s Asset Server provides the economy server with snippets of HTML to render for each tradable item and the trading UI merges those into a single page.” <i>Id.</i></p> <p>“The economy section of the Steam support site also uses the Economy Server to query each Asset Server about a user’s assets. For most games the</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 4	Dota 2
	<p>support site is able to see the full set assets owned by a player...A game that participates in the economy is also able to provide some or all of a user's asset inventory for display in that user's Steam Community Profile...The Game Coordinator for each Valve Game is that game's Asset Server in the Steam Economy. Valve games have a mostly-common code base that allows them to share the back-end persistence technology across multiple games." <i>Id.</i></p> <p>Dota 2 uses Game Coordinator servers, as part of the Steam Economy as described above with respect to claim 1. The server handles login information for users, and keeps track of items such as heroes (characters) and character attributes that have been previously selected by each user. See The description below (Source: http://blog.dota2.com/2013/06/transitioning-into-launch-mode).</p> <div style="background-color: #333; color: white; padding: 10px;"> <p>First, we have a server called the Game Coordinator (or GC), which is really a number of different servers that all collectively handle the backend work that Dota 2 needs (with the exception of hosting actual games). This is the server that handles your Dota 2 login, determines who you will play against in matchmaking, keeps track of where all of your items are stored, and many other functions. This also means that as we increase the number of users, this server needs to scale up. We think we're in pretty good shape for adding a pretty large number of users from the GC's perspective (we could at least double in total concurrent users), but it's one of the areas we'll be keeping an eye on as the audience grows.</p> </div> <p>For example, to start play a user is presented with a login screen such as shown below:</p> 

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 4	Dota 2
	<p>After login, the user's representative image is displayed on the screen, indicating that the character and character attributes are associated with the user (and retrieving them from a stored database containing the stored character and character attribute data previously selected).</p>  <p>User login information, linking the stored character-persona data with one or more of the character-attribute data, is passed to the game coordinator, as indicated below (Source: https://media.readthedocs.org/pdf/dota2/stable/dota2.pdf):</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	<p>2.1.2 client</p> <p>Only the most essential features to <code>dota2.client.Dota2Client</code> are found here. Every other feature is inherited from the <code>dota2.features</code> package and its submodules.</p> <pre>class dota2.client.Dota2Client(steam_client) Bases: steam.client.gc.GameCoordinator, dota2.features.FeatureBase Parameters steam_client (steam.client.SteamClient) – Instance of the steam client verbose_debug = False enable pretty print of messages in debug logging app_id = 570 main client app id ready = False True when we have a session with GC connection_status = 2 dota2.enums.GCConnectionStatus account_id Account ID of the logged in user in the steam client steam_id steam.steamid.SteamID of the logged-in user in the steam client</pre> <p>Previously created character profiles, including linked character persona data and character attribute data, is presented to the user after login, having been retrieved as indicated above. See, for example, the screen below, showing the name along with the previously selected character and character attributes.</p>  <p>Users can assign names to customized characters, adding to the persona, such as indicated in the screen below. The names are stored in the database associated with the user.</p>

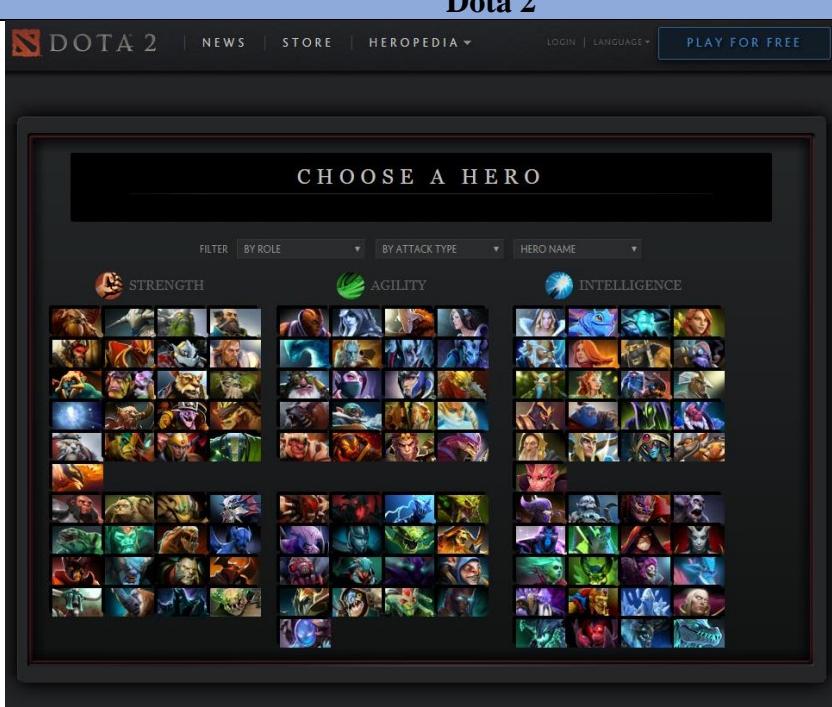
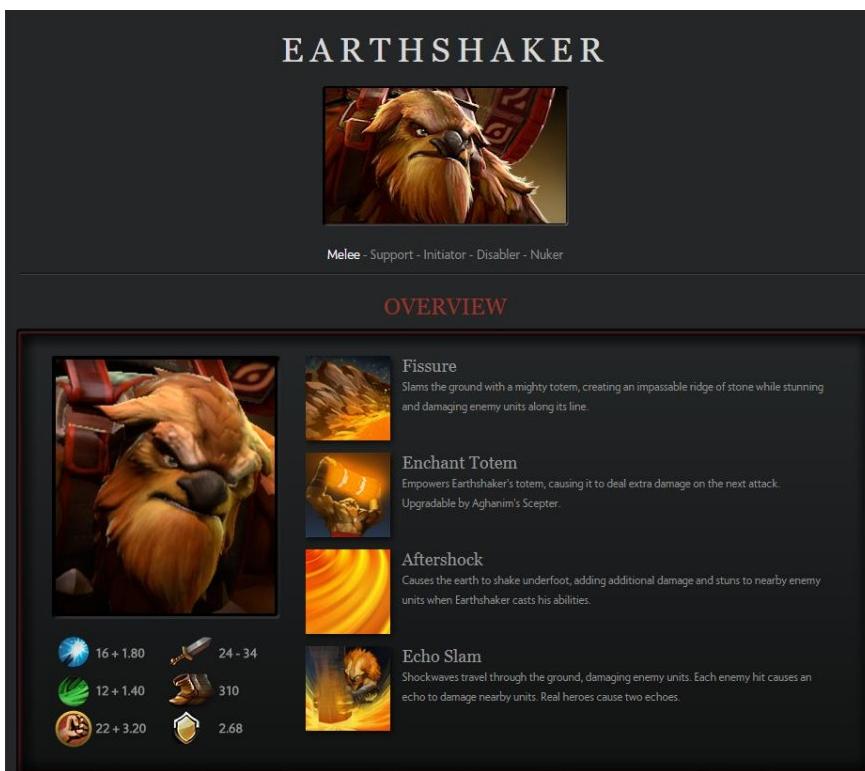
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	 <p>Names given to heroes, or users, can be part of the persona data and are linked as part of the user profile and assets as described above. See VALVE_TH_0000225-28, describing unique persona names. See also VALVE_TH_0000322, referring to a Persona, including a Steam persona name. Users have posted comments regarding funny Dota names, for example, as part of the persona. See, for example, the excerpt below (Source: https://www.joindota.com/en/forums/691-joindota-and-community/693-community/194355-funny-dota-names&page=1)</p>  <p>Some users or developers have addressed suitable names as part of a persona, for example to avoid copyright issues. See for example the excerpt below (Source: https://dev.dota2.com/showthread.php?t=69568).</p>

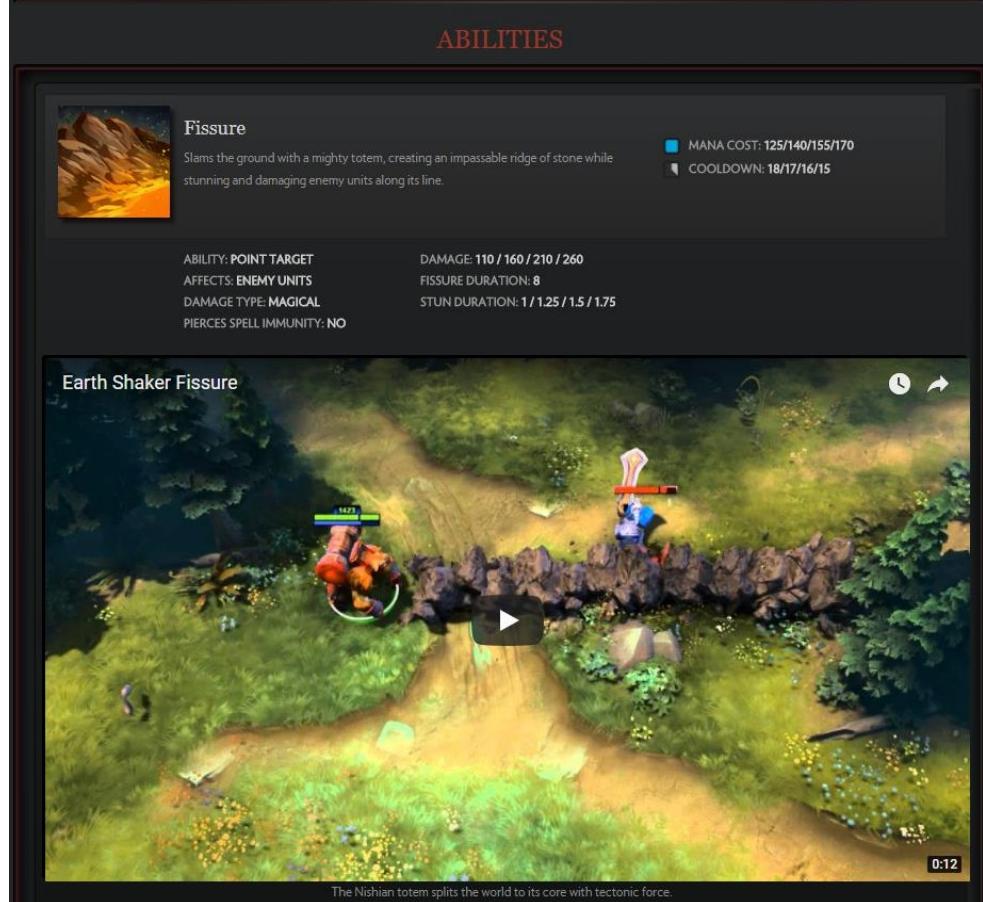
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 4	Dota 2															
DOTA 2 APPROPRIATE NAMES TO AVOID COPYRIGHT ISSUES																
	 Earthbro	 Soldier	 Rocky	 Sailor	 Anti Fun	 Anti Fun2	 Samurai	 Priest	 Ice Lady	 Fairy	 Fast Guy	 Archer				
	 Axe	 Armor Guy	 Robot	 Irish Guy	 Waterdude	 Lancer	 Mad Spirit	 Satyr	 Old Guy	 Red Wizard	 Ninja	 Scientist				
	 Jumper	 Big & Small	 Drunkard	 Wood	 Gunner	 Total Bitch	 Irish Girl	 Ninja 2	 Soggy	 Fluffy	 Doubles	 Fashionista				
	 Martyr	 Stompy	 Cutter	 Old Guy++	 Beast	 Jew	 Irish Bear	 Singer	 Hushmode	 2xGoblin	 Thief	 Rider				
	 Beardy	 Chef	 Lobster	 Fishy	 Bleeder	 Spooker	 Whipman	 Banana	 Gangar	 Skeleton	 Clown	 No Teeth Man				
	 Sharky	 Mr. Bones	 Muncher	 Blue Cat	 Big Head	 Ghost	 Spitball	 Fire Archer	 Spaceman	 Pignose	 Magician	 Yell girl				
	 Doom	 Fast Cow	 Dog Man	 Soda Guy	 Webber	 Bug	 Warper	 Feeder	 Summoner	 Skyrim	 Sexually Challenged	 Centaur				
	 Zombie	 Rhino	 Outworld Demolisher	 Devil	 Beatle	 Piranha	 Snake	 Gargoyle	 Speedy	 Flyer	 Snowman	 Carl				
<p>Characters have particular actions ascribed to them, as well as attributes, beyond the appearance of the character. Each hero has a mix of qualities such as its base strength, agility, intelligence, speed, armor, attack point, vision, collision size, turn rate, and so on. These qualities translate to actions by the character, for example with respect to the character's ability to move, swing a weapon, and so on. In the image below, Dota 2 heroes are organized by some of these qualities. See below, from www.dota2.com/heroes/</p>																

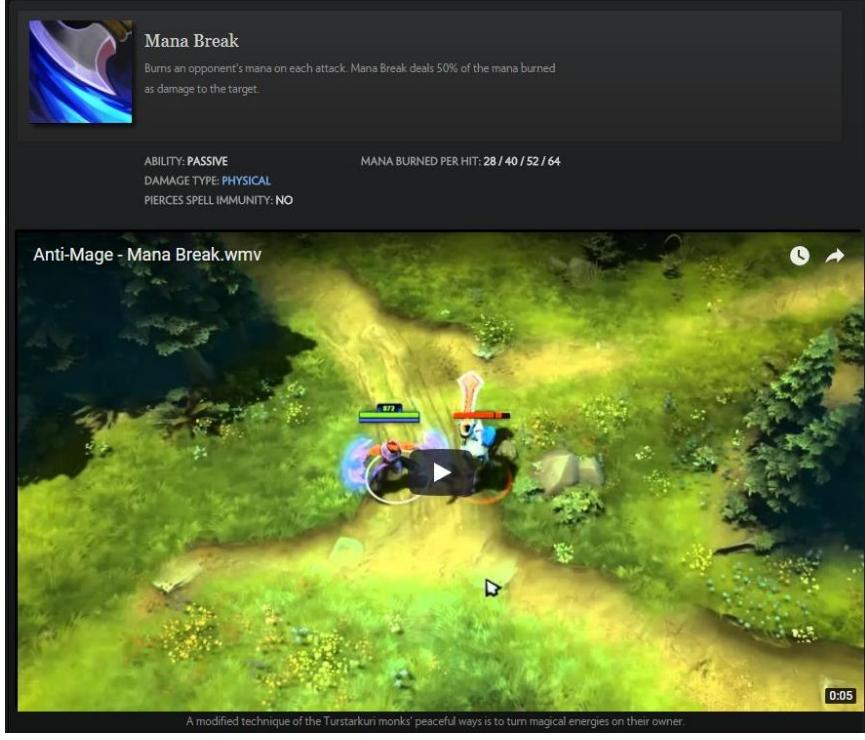
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	
	<p>Selecting a particular hero from the table produces a summary for that hero, presenting its strength, agility, and intelligence. For example, see below, which is presented when the Earthshaker hero is selected.</p> 

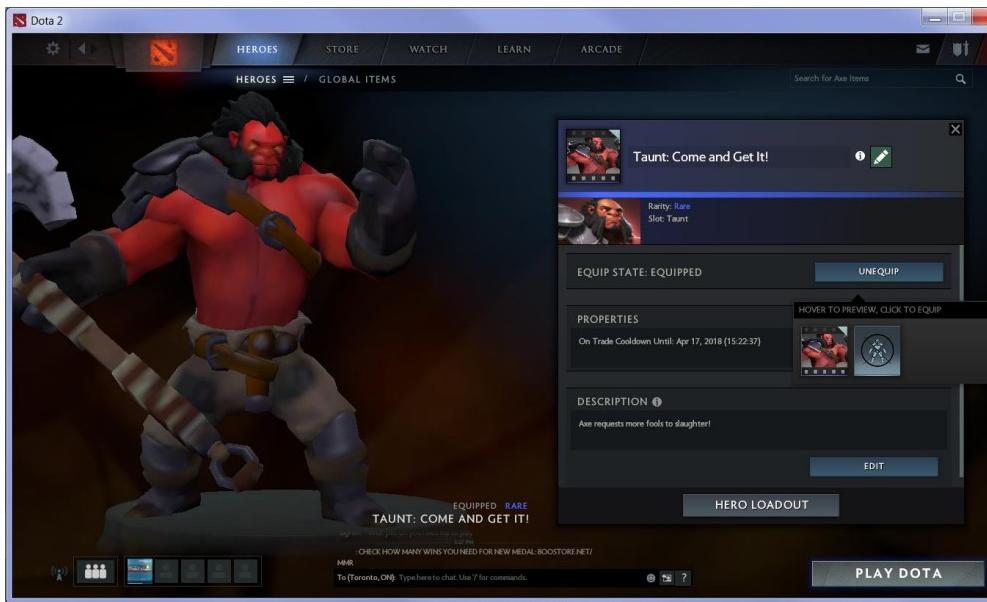
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	<p>Some of the specific actions for the hero are presented at the right side of the image above, and are further presented to the user such as in the image below, which shows a video of the Fissure action. Selecting play on the video results in a demonstration of the particular action on the screen.</p>  <p>The screenshot displays the Dota 2 interface. At the top, it says "ABILITIES". Below that is the "Fissure" ability card, which includes an icon of a rocky landscape, a brief description ("Slams the ground with a mighty totem, creating an impassable ridge of stone while stunning and damaging enemy units along its line."), and resource costs ("MANA COST: 125/140/155/170" and "COOLDOWN: 18/17/16/15"). Below the card are detailed stats: "ABILITY: POINT TARGET", "AFFECTS: ENEMY UNITS", "DAMAGE TYPE: MAGICAL", and "PIERCES SPELL IMMUNITY: NO". To the right of the card, there are damage values: "DAMAGE: 110 / 160 / 210 / 260" and "FISSURE DURATION: 8". Below the card is a video player showing a scene from the game where a character uses the Fissure ability, creating a stone wall. The video player has a play button and a timestamp of "0:12". A caption at the bottom of the video player reads: "The Nishian totem splits the world to its core with tectonic force."</p> <p>The same presentation is made for the other actions that are possible by the Earthshaker, shown previously above. Likewise, the distinct actions of other characters are shown in the same fashion for each of the other characters. As another example, selecting the Anti-Mage character produces the following screen, showing his abilities and some possible actions:</p>

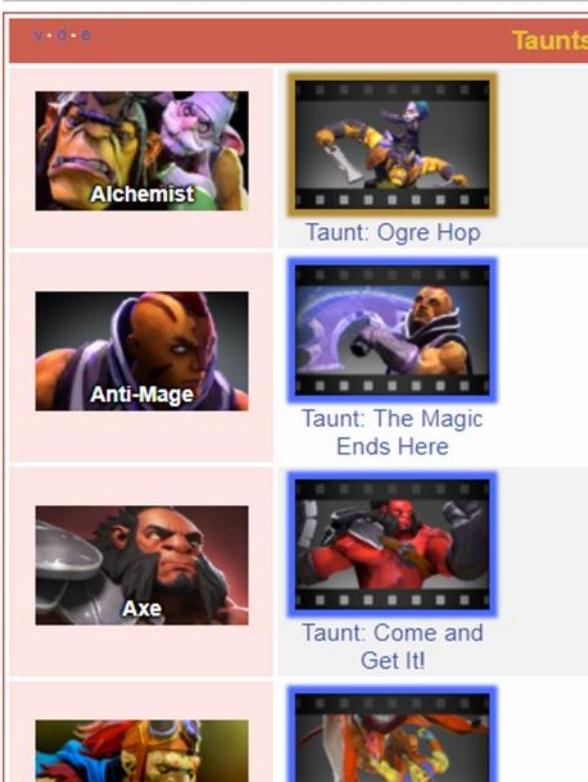
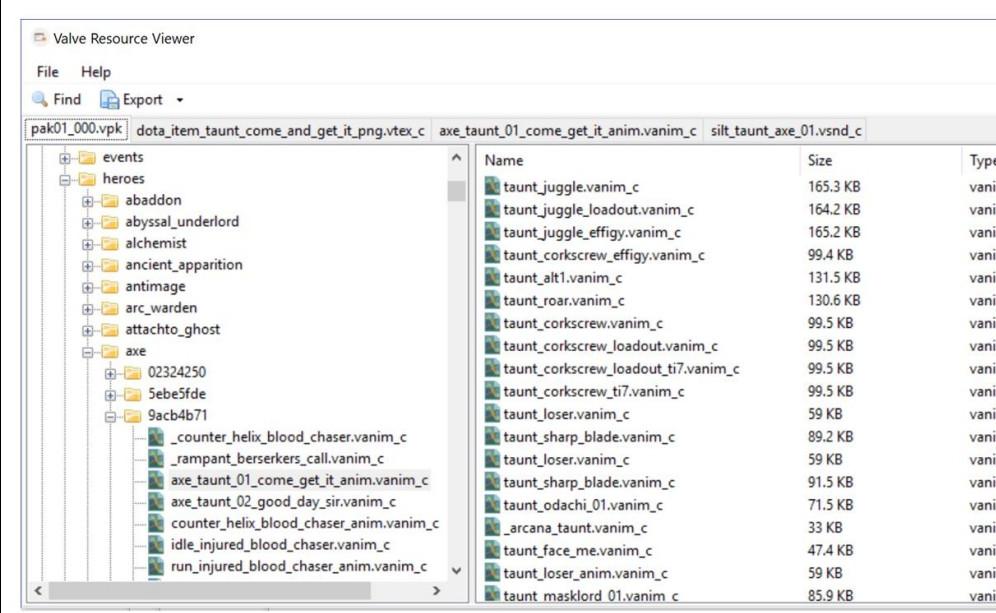
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2						
	<p style="text-align: center;">ANTI-MAGE</p>  <p>Melee - Carry - Escape - Nuker</p> <p style="text-align: center;">OVERVIEW</p> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">12 + 1.80</td> <td style="padding: 2px;">27 - 31</td> </tr> <tr> <td style="padding: 2px;">22 + 2.80</td> <td style="padding: 2px;">310</td> </tr> <tr> <td style="padding: 2px;">22 + 1.30</td> <td style="padding: 2px;">2.08</td> </tr> </table> </div> <div style="flex: 2; padding-left: 10px;"> <div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div style="text-align: center;">  <p>Mana Break Burns an opponent's mana on each attack. Mana Break deals 50% of the mana burned as damage to the target.</p> </div> <div style="text-align: center;">  <p>Blink Short distance teleportation that allows Anti-Mage to move in and out of combat.</p> </div> <div style="text-align: center;">  <p>Spell Shield Increases Anti-Mage's resistance to magic damage. Upgradable by Aghanim's Scepter.</p> </div> <div style="text-align: center;">  <p>Mana Void For each point of mana missing by the target unit, damage is dealt to it and surrounding enemies. The main target is also mini-stunned.</p> </div> </div> </div> </div> <p>Again, each of the actions is presented with a video showing the example action, such as (in the above case) the mana break shown below:</p> <div style="position: relative; height: 100%;">  <p>Anti-Mage - Mana Break.wmv</p> <p>A modified technique of the Tur Starkuri monks' peaceful ways is to turn magical energies on their owner.</p> </div>	12 + 1.80	27 - 31	22 + 2.80	310	22 + 1.30	2.08
12 + 1.80	27 - 31						
22 + 2.80	310						
22 + 1.30	2.08						

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	<p>The screens further contain a bio for each character, such as the Anti-Mage bio shown below:</p> <div style="border: 1px solid black; padding: 10px; background-color: #f0f0f0;"> <p style="text-align: center;">BIO</p> <p>The monks of Turstarkuri watched the rugged valleys below their mountain monastery as wave after wave of invaders swept through the lower kingdoms. Ascetic and pragmatic, in their remote monastic eyrie they remained aloof from mundane strife, wrapped in meditation that knew no gods or elements of magic. Then came the Legion of the Dead God, crusaders with a sinister mandate to replace all local worship with their Unliving Lord's poisonous nihilosophy. From a landscape that had known nothing but blood and battle for a thousand years, they tore the souls and bones of countless fallen legions and pitched them against Turstarkuri. The monastery stood scarcely a fortnight against the assault, and the few monks who bothered to surface from their meditations believed the invaders were but demonic visions sent to distract them from meditation. They died where they sat on their silken cushions. Only one youth survived--a pilgrim who had come as an acolyte, seeking wisdom, but had yet to be admitted to the monastery. He watched in horror as the monks to whom he had served tea and nettles were first slaughtered, then raised to join the ranks of the Dead God's priesthood. With nothing but a few of Turstarkuri's prized dogmatic scrolls, he crept away to the comparative safety of other lands, swearing to obliterate not only the Dead God's magic users--but to put an end to magic altogether.</p> </div> <p>In addition to the basic assigned actions, Taunts can be associated with characters. See, for example, VALVE_TH_0002370-78 describing taunt animations. Taunts can have audio and video components.</p> <p>As one example, in the screen below the “come and get it” taunt is indicated.</p>  <p>Some taunts are available in the Dota 2 database resident on the Dota2 GC. Metadata stored on the Econ server indicates which attributes the user has selected. Example taunts are shown below.</p>

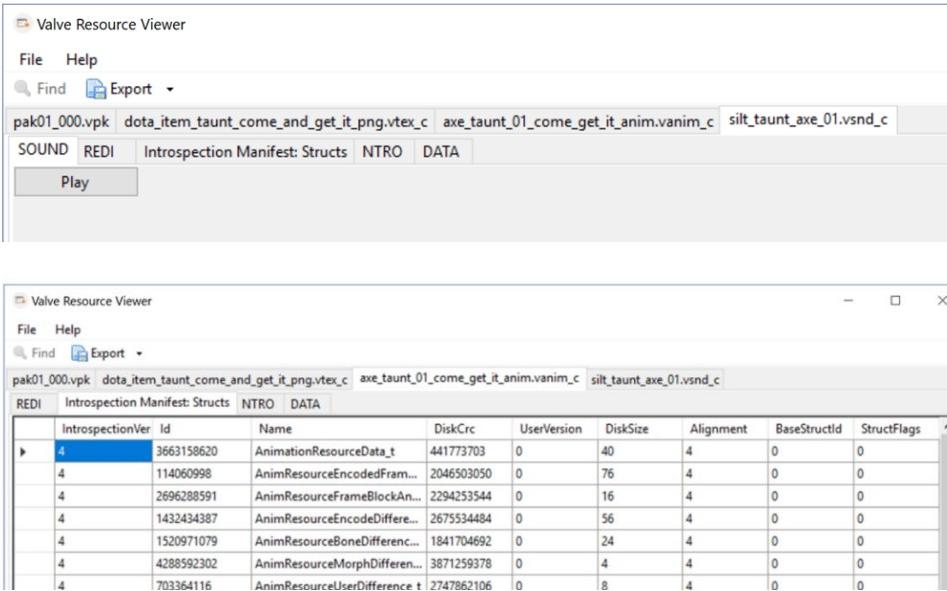
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2																																																												
	<p style="text-align: center;">List [edit]</p>  <p>The selected taunts are stored and linked to the character in a manner similar to the linked character attributes, such as shown in the file structure image below, displaying some of the available taunts.</p> <p style="text-align: center;"></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> <th>Type</th> </tr> </thead> <tbody> <tr><td>taunt_juggle.vanim_c</td><td>165.3 KB</td><td>vanim</td></tr> <tr><td>taunt_juggle_loadout.vanim_c</td><td>164.2 KB</td><td>vanim</td></tr> <tr><td>taunt_juggle_effigy.vanim_c</td><td>165.2 KB</td><td>vanim</td></tr> <tr><td>taunt_corkscrew_effigy.vanim_c</td><td>99.4 KB</td><td>vanim</td></tr> <tr><td>taunt_alt1.vanim_c</td><td>131.5 KB</td><td>vanim</td></tr> <tr><td>taunt_roar.vanim_c</td><td>130.6 KB</td><td>vanim</td></tr> <tr><td>taunt_corkscrew.vanim_c</td><td>99.5 KB</td><td>vanim</td></tr> <tr><td>taunt_corkscrew_loadout.vanim_c</td><td>99.5 KB</td><td>vanim</td></tr> <tr><td>taunt_corkscrew_loadout_ti7.vanim_c</td><td>99.5 KB</td><td>vanim</td></tr> <tr><td>taunt_corkscrew_t7.vanim_c</td><td>99.5 KB</td><td>vanim</td></tr> <tr><td>taunt_loser.vanim_c</td><td>59 KB</td><td>vanim</td></tr> <tr><td>taunt_sharp_blade.vanim_c</td><td>89.2 KB</td><td>vanim</td></tr> <tr><td>taunt_loser.vanim_c</td><td>59 KB</td><td>vanim</td></tr> <tr><td>taunt_sharp_blade.vanim_c</td><td>91.5 KB</td><td>vanim</td></tr> <tr><td>taunt_odachi_01.vanim_c</td><td>71.5 KB</td><td>vanim</td></tr> <tr><td>_arcana_taunt.vanim_c</td><td>33 KB</td><td>vanim</td></tr> <tr><td>taunt_face_me.vanim_c</td><td>47.4 KB</td><td>vanim</td></tr> <tr><td>taunt_loser_anim.vanim_c</td><td>59 KB</td><td>vanim</td></tr> <tr><td>taunt_masklord_01.vanim_c</td><td>85.9 KB</td><td>vanim</td></tr> </tbody> </table>	Name	Size	Type	taunt_juggle.vanim_c	165.3 KB	vanim	taunt_juggle_loadout.vanim_c	164.2 KB	vanim	taunt_juggle_effigy.vanim_c	165.2 KB	vanim	taunt_corkscrew_effigy.vanim_c	99.4 KB	vanim	taunt_alt1.vanim_c	131.5 KB	vanim	taunt_roar.vanim_c	130.6 KB	vanim	taunt_corkscrew.vanim_c	99.5 KB	vanim	taunt_corkscrew_loadout.vanim_c	99.5 KB	vanim	taunt_corkscrew_loadout_ti7.vanim_c	99.5 KB	vanim	taunt_corkscrew_t7.vanim_c	99.5 KB	vanim	taunt_loser.vanim_c	59 KB	vanim	taunt_sharp_blade.vanim_c	89.2 KB	vanim	taunt_loser.vanim_c	59 KB	vanim	taunt_sharp_blade.vanim_c	91.5 KB	vanim	taunt_odachi_01.vanim_c	71.5 KB	vanim	_arcana_taunt.vanim_c	33 KB	vanim	taunt_face_me.vanim_c	47.4 KB	vanim	taunt_loser_anim.vanim_c	59 KB	vanim	taunt_masklord_01.vanim_c	85.9 KB	vanim
Name	Size	Type																																																											
taunt_juggle.vanim_c	165.3 KB	vanim																																																											
taunt_juggle_loadout.vanim_c	164.2 KB	vanim																																																											
taunt_juggle_effigy.vanim_c	165.2 KB	vanim																																																											
taunt_corkscrew_effigy.vanim_c	99.4 KB	vanim																																																											
taunt_alt1.vanim_c	131.5 KB	vanim																																																											
taunt_roar.vanim_c	130.6 KB	vanim																																																											
taunt_corkscrew.vanim_c	99.5 KB	vanim																																																											
taunt_corkscrew_loadout.vanim_c	99.5 KB	vanim																																																											
taunt_corkscrew_loadout_ti7.vanim_c	99.5 KB	vanim																																																											
taunt_corkscrew_t7.vanim_c	99.5 KB	vanim																																																											
taunt_loser.vanim_c	59 KB	vanim																																																											
taunt_sharp_blade.vanim_c	89.2 KB	vanim																																																											
taunt_loser.vanim_c	59 KB	vanim																																																											
taunt_sharp_blade.vanim_c	91.5 KB	vanim																																																											
taunt_odachi_01.vanim_c	71.5 KB	vanim																																																											
_arcana_taunt.vanim_c	33 KB	vanim																																																											
taunt_face_me.vanim_c	47.4 KB	vanim																																																											
taunt_loser_anim.vanim_c	59 KB	vanim																																																											
taunt_masklord_01.vanim_c	85.9 KB	vanim																																																											

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 4	Dota 2
	<p>The presentation of the character to the user, as indicated in the image below, includes the character with character attributes. It also includes an indication of equipped taunts, such as the “come and get it” taunt, and shows the character performing the taunt while equipped with the Axe’s Shoulder Guard character attribute.</p>  <p>As further shown below, the character is performing the action of the taunt, pumping its fist and saying “come and get it.”</p> 

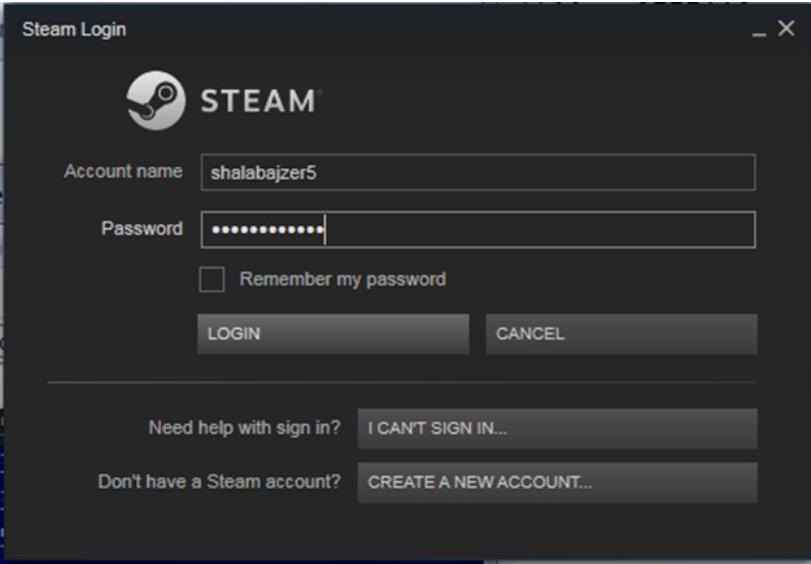
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 6	Dota 2																																																																								
<p>6. The method of claim 4 wherein the character-persona data comprises at least one of audio presentations and visual image presentations.</p>	<p>The character-persona data include visual image presentations resident on the Dota2 GC and combined in accord with metadata stored on the Econ server. See above with respect to Claim 4, describing both audio and visual presentations.</p> <p>The audio portions are stored by Dota 2 and evoked as called by the Econ server in accord with metadata stored there in association with the user.</p>  <table border="1"> <thead> <tr> <th>IntrospectionVer</th> <th>Id</th> <th>Name</th> <th>DiskCrc</th> <th>UserVersion</th> <th>DiskSize</th> <th>Alignment</th> <th>BaseStructId</th> <th>StructFlags</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>3663158620</td> <td>AnimationResourceData_t</td> <td>441773703</td> <td>0</td> <td>40</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>114060998</td> <td>AnimResourceEncodedFram...</td> <td>2046503050</td> <td>0</td> <td>76</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>2696288591</td> <td>AnimResourceFrameBlockAn...</td> <td>2294253544</td> <td>0</td> <td>16</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>1432434387</td> <td>AnimResourceEncodeDiffere...</td> <td>2675534484</td> <td>0</td> <td>56</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>1520971079</td> <td>AnimResourceBoneDifferenc...</td> <td>1841704692</td> <td>0</td> <td>24</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>4288592302</td> <td>AnimResourceMorphDifferen...</td> <td>3871259378</td> <td>0</td> <td>4</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>703364116</td> <td>AnimResourceUserDifference_t</td> <td>2747862106</td> <td>0</td> <td>8</td> <td>4</td> <td>0</td> <td>0</td> </tr> </tbody> </table> <p>The diagram is a definition of both audio and visual data of the “Come and Get It” taunt as stored in the Dota 2 database.</p>	IntrospectionVer	Id	Name	DiskCrc	UserVersion	DiskSize	Alignment	BaseStructId	StructFlags	4	3663158620	AnimationResourceData_t	441773703	0	40	4	0	0	4	114060998	AnimResourceEncodedFram...	2046503050	0	76	4	0	0	4	2696288591	AnimResourceFrameBlockAn...	2294253544	0	16	4	0	0	4	1432434387	AnimResourceEncodeDiffere...	2675534484	0	56	4	0	0	4	1520971079	AnimResourceBoneDifferenc...	1841704692	0	24	4	0	0	4	4288592302	AnimResourceMorphDifferen...	3871259378	0	4	4	0	0	4	703364116	AnimResourceUserDifference_t	2747862106	0	8	4	0	0
IntrospectionVer	Id	Name	DiskCrc	UserVersion	DiskSize	Alignment	BaseStructId	StructFlags																																																																	
4	3663158620	AnimationResourceData_t	441773703	0	40	4	0	0																																																																	
4	114060998	AnimResourceEncodedFram...	2046503050	0	76	4	0	0																																																																	
4	2696288591	AnimResourceFrameBlockAn...	2294253544	0	16	4	0	0																																																																	
4	1432434387	AnimResourceEncodeDiffere...	2675534484	0	56	4	0	0																																																																	
4	1520971079	AnimResourceBoneDifferenc...	1841704692	0	24	4	0	0																																																																	
4	4288592302	AnimResourceMorphDifferen...	3871259378	0	4	4	0	0																																																																	
4	703364116	AnimResourceUserDifference_t	2747862106	0	8	4	0	0																																																																	

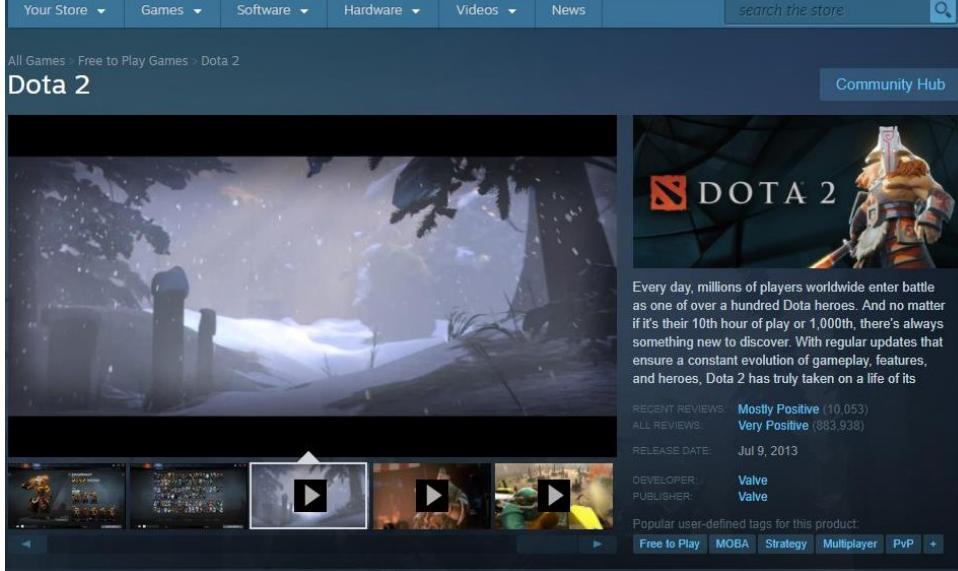
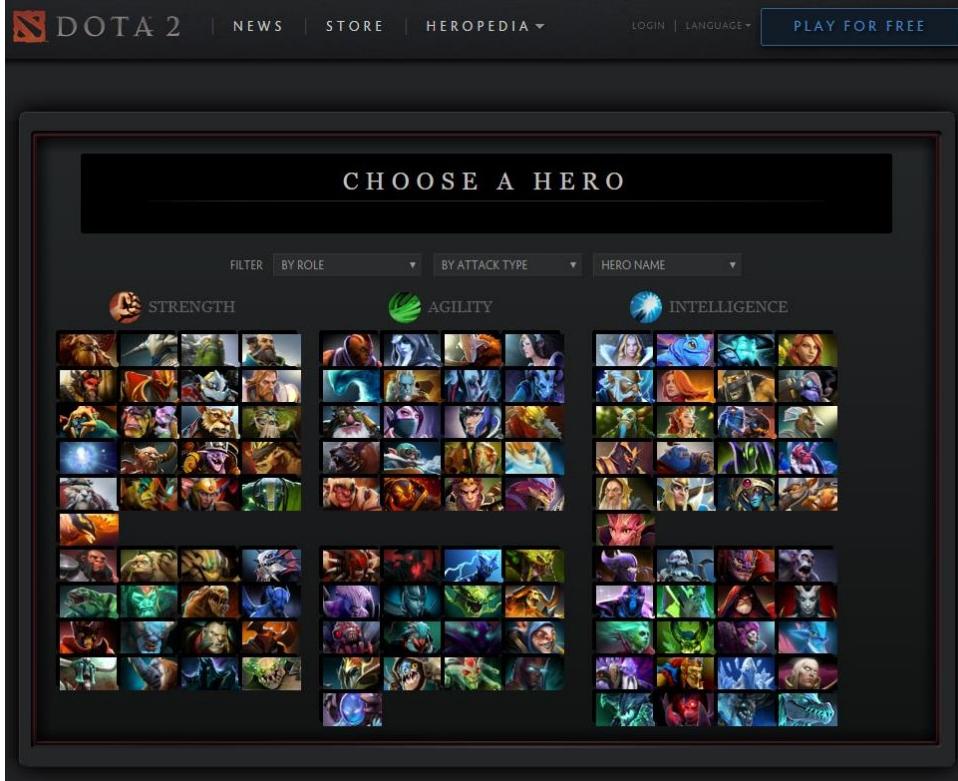
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
21. A method of operating a plurality of character enabled (CE) network sites for a plurality of users, said method comprising the steps of:	<p>The preamble is not limiting, and therefore need not be applied and mapped to the accused Dota 2 game.</p> <p>Dota 2 provides a method of operating a plurality of CE network sites. As described above, and further below, Dota 2 and the Steam Economy provide multiple servers and operate for a plurality of users at a time.</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
<p>a. causing a user, through a user interface operating on a device of said user, to create a character for use on said plurality of CE network sites, said character having a character profile including a plurality of attributes selected by said user,</p>	<p>Dota 2 is played by users operating their own devices. Each of the screen displays shown above, and below, are captured from a user interface operating on a user device.</p> <p>Before starting the game, Steam requires the user to log in, from his own device.</p>  <p>The user is caused to create a character for use. The characters in Dota2 are also called "Heroes" and their defined character data are saved on the Game Coordinator/Steam Asset Server as described above. The Dota 2 game includes a plurality of heroes stored in the database; Steam refers to the game as comprising a battle in which players "enter battle as one of over a hundred Dota heroes." See below, from http://store.steampowered.com/app/570/Dota_2/</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	 <p>Dota 2 causes the user to choose a hero (or character) from among a plurality of possible heroes (or characters). See below, from www.dota2.com/heroes/</p>  <p>The character further has a character profile including a plurality of attributes, such as described for claim 1 above, including references to</p>

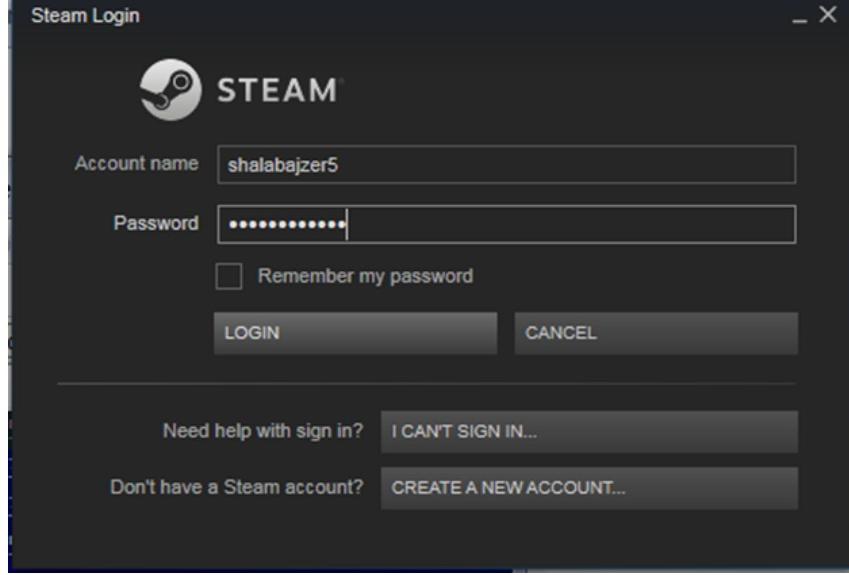
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	<p>character attributes such as swords, necklaces, hats, and other attributes. The corresponding content of claim 1 is incorporated by reference here. As an example, the Dragon Knight is shown below together with additional attributes selected by a user for use on a plurality of CE network sites.</p>  <p>As another example, an Earth Spirit character is shown below, having been created with a profile including a plurality of attributes selected by a user.</p>  <p>The plurality of attributes are selected in the manner as described with respect to claim 1, in which the user selects and may purchase any of a plurality of attributes.</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
b. associating said character profile with said user by receiving associating information from said user,	<p>The character profile is associated with a user by receiving associating information from the user.</p> <p>“The Steam Economy is our name for a set of features that allow in-game items from multiple games to work together in a single shared system in Steam. In-game items in the Steam Economy can be purchased via microtransactions, earned from Steam Achievements, delivered in-game, or granted in response to various kinds of promotions. Users can view their in-game inventories in the Steam Community, include links to items in chat sessions, and trade items with other users. Steam provides the user-interface and the heavy lifting for these features, but leaves the game itself in complete control of the items themselves.” VALVE_TH_0001324-26.</p> <p>“The Economy Server acts as a gateway for other Steam servers to the Asset API implementations provided by the games included in the economy. It is also responsible for tracking trades as they happen and recording the audit history for trades. The Economy Server doesn’t store any of the data for a user’s assets directly. That is the job of the per-game Asset Servers. The Economy Server stores meta-data about what items players own as well as the audit history for all trades.” <i>Id.</i></p> <p>“Secure cross-game trading is presented to the user via a web front end. This trading UI can be accessed by users either in the in-game overlay or directly via a web browser. Assets from any game participating in the economy can appear in this UI. A game’s Asset Server provides the economy server with snippets of HTML to render for each tradable item and the trading UI merges those into a single page.” <i>Id.</i></p> <p>“The economy section of the Steam support site also uses the Economy Server to query each Asset Server about a user’s assets. For most games the support site is able to see the full set assets owned by a player...A game that participates in the economy is also able to provide some or all of a user’s asset inventory for display in that user’s Steam Community Profile...The Game Coordinator for each Valve Game is that game’s Asset Server in the Steam Economy. Valve games have a mostly-common code base that allows them to share the back-end persistence technology across multiple games.” <i>Id.</i></p> <p>Dota 2 associates the character profile with the user by receiving associating information from the user. As noted above, the user must login, using an account name and password as shown below.</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	 <p>The screenshot shows the Steam Login window. The account name 'shalabajzer5' is entered in the 'Account name' field, and a password is entered in the 'Password' field. There is a 'Remember my password' checkbox, which is unchecked. Below the fields are 'LOGIN' and 'CANCEL' buttons. At the bottom, there are links for 'Need help with sign in?' (with 'I CAN'T SIGN IN...'), 'Don't have a Steam account?' (with 'CREATE A NEW ACCOUNT...'), and a 'Sign In' button.</p>  <p>The screenshot shows the Dota 2 game lobby. The 'DRAGON KNIGHT' hero is selected, shown in a large portrait. The lobby interface includes tabs for 'HOME', 'STORE', 'WATCH', 'CREATE', and 'ARCADE'. Below the hero portrait are item slots and player slots. A red box highlights the 'DRAGON KNIGHT' hero icon, and a callout box points to it from the bottom left. The callout box contains the text 'FORGE' and 'Teemo > Color'.</p>

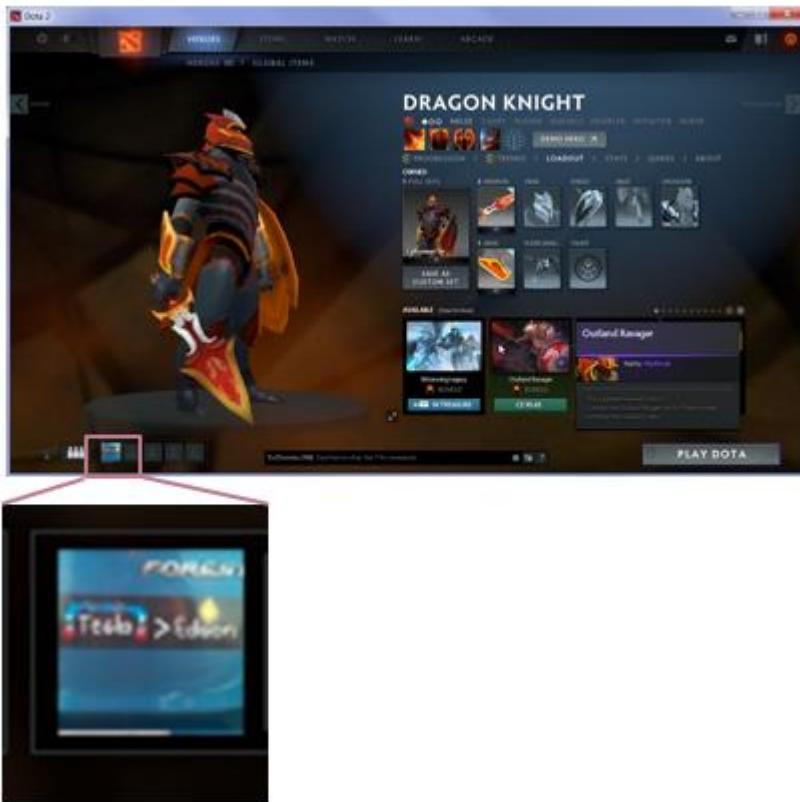
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	<p>Right clicking on the user's representative image shown on the lower left margin of the displayed window generates a "view profile" button, which can be selected as indicated below.</p>  <p>By clicking the "View Profile" button, further user information is presented, showing an association between the user and the character profile that had been previously displayed.</p>  <p>The Steam Economy further captures the login information as described above, and passes it along to Game Coordinators as indicated below.</p>

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
	<p>2.1.2 client</p> <p>Only the most essential features to <code>dota2.client.Dota2Client</code> are found here. Every other feature is inherited from the <code>dota2.features</code> package and its submodules.</p> <pre><code>class dota2.client.Dota2Client(steam_client) Bases: steam.client.gc.GameCoordinator, dota2.features.FeatureBase Parameters steam_client (steam.client.SteamClient) – Instance of the steam client verbose_debug = False enable pretty print of messages in debug logging app_id = 570 main client app id ready = False True when we have a session with GC connection_status = 2 dota2.enums.GCConnectionStatus account_id Account ID of the logged in user in the steam client steam_id steam.steamid.SteamID of the logged-in user in the steam client</code></pre> <p>Source: https://media.readthedocs.org/pdf/dota2/stable/dota2.pdf</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2																					
c. storing said associating information and said character profile in a database that is accessible to said CE network site,	<p>As described above, the character profile is stored in a manner that is accessible to the CE network site. Character profile information is stored within the Steam Economy and replicated on the client device, as described above.</p> <p>The associating information is accessible to the CE network site, as indicated above (and reproduced below), showing the combined information presented to the user.</p>  <p>The client machine (user) communicates with the CE network site after logging in, and therefore after the CE network site has accessed the associating information, to pass character profile information to the CE network site. For example, after logging in, the client (IP address 192.168.110.58) sends a data packet (number 2587 below) to inform the CE network site (the Game Coordinator, IP address 162.254.193.46) that the Dragon Knight is equipped with the Dragons' Saul sword, and packet 3174 to inform the CE network site that the Dragon Knight was equipped with the Wyrm Bracers of Uldorak.</p> <table border="1"> <thead> <tr> <th>No.</th><th>Time</th><th>Source</th><th>Destination</th><th>Protocol</th><th>Length</th><th>Info</th></tr> </thead> <tbody> <tr> <td>2587</td><td>13:28:07.065831</td><td>192.168.110.58</td><td>162.254.193.46</td><td>UDP</td><td>174</td><td>63199 → 27017 Len=132</td></tr> <tr> <td>3174</td><td>13:29:16.316259</td><td>192.168.110.58</td><td>162.254.193.46</td><td>UDP</td><td>174</td><td>63199 → 27017 Len=132</td></tr> </tbody> </table>	No.	Time	Source	Destination	Protocol	Length	Info	2587	13:28:07.065831	192.168.110.58	162.254.193.46	UDP	174	63199 → 27017 Len=132	3174	13:29:16.316259	192.168.110.58	162.254.193.46	UDP	174	63199 → 27017 Len=132
No.	Time	Source	Destination	Protocol	Length	Info																
2587	13:28:07.065831	192.168.110.58	162.254.193.46	UDP	174	63199 → 27017 Len=132																
3174	13:29:16.316259	192.168.110.58	162.254.193.46	UDP	174	63199 → 27017 Len=132																

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	<p>Communication of this sort back and forth between the user and the CE network site allows the user to login from any location and onto any of a plurality of CE network sites, then to retrieve the stored character profile associated with the particular user.</p> <p>Dota 2 provides commands for communication of the type above, allowing the CE network site to access the character profile from its stored location. See, for example, the commands below.</p> <pre> class dota2.enums.EGCItemMsg EMsgClientToGCEquipItems = 2569 EMsgClientToGCEquipItemsResponse = 2570 </pre> <p>Source: test; https://media.readthedocs.org/pdf/dota2/stable/dota2.pdf;</p> <p>Retrieving the stored information allows the CE network site to present the character profile, such as in the image below.</p>

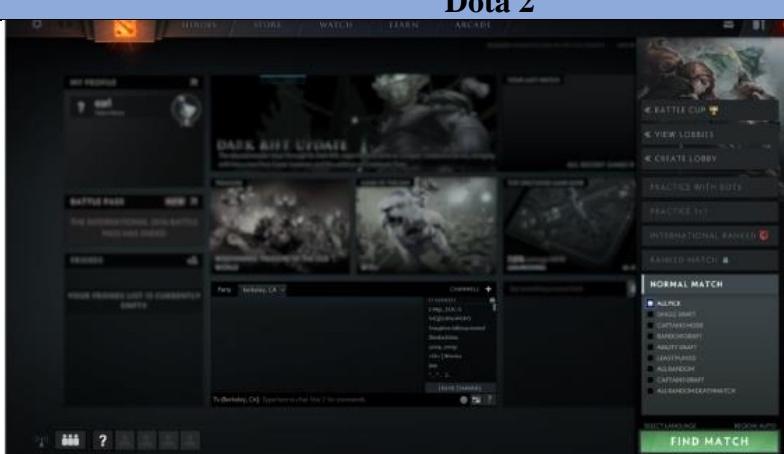
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2																																																																																				
d. upon receiving a request for access to one of said plurality of CE network sites, enabling a user to retrieve a previously created character profile from said database using said associating information;	<p>The above limitation showing the stored information also shows the user being enabled to retrieve a previously stored character profile from the database, using the associating information.</p> <p>As described above, the user will have logged in, and after login the user's identifying image is shown iconically in the image below, at the lower left. The communication between the Steam Economy, including the CE network site, enables the user to retrieve a previously created character profile from the database, such as by the commands and exchange of equipment packets as described above. In the image below, Dota 2 presents to the user the previously stored character profile in this fashion.</p>  <p>In the screenshot, the hero 'DRAGON KNIGHT' is displayed in his default skin. The interface includes tabs for HEROES, STORE, WATCH, LEARN, and ARCADE. Below the hero are sections for PROGRESSION, TRENDS, LOADOUT, STATS, GUIDES, and ABOUT. The LOADOUT section shows the hero's current gear set, which is highlighted as a 'Customized Set'. Other items available for purchase include 'Bitterling Legacy BUNDLE', 'Outland Ravager BUNDLE', 'Legacy of the Eldewurm C...', and 'Pact of the Wurmblood BUNDLE'. A 'PLAY DOTA' button is visible at the bottom right.</p> <p>In an example, after Dota 2 client is accessed by a user device connecting with a CE network site (72.165.61.175 below), thereafter there is an exchange of data packets which enable the user to retrieve the previously stored character profile for use by the CE network site. An example of such an exchange is shown below.</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Time</th> <th>Source</th> <th>Destination</th> <th>Protocol</th> <th>Length</th> <th>Info</th> </tr> </thead> <tbody> <tr> <td>107</td> <td>11:02:10.596932</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>78</td> <td>62062 → 27018 Len=</td> </tr> <tr> <td>137</td> <td>11:02:10.702926</td> <td>72.165.61.175</td> <td>192.168.1.107</td> <td>UDP</td> <td>86</td> <td>27018 → 62062 Len=</td> </tr> <tr> <td>167</td> <td>11:02:10.768712</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>78</td> <td>62062 → 27017 Len=</td> </tr> <tr> <td>192</td> <td>11:02:10.874142</td> <td>72.165.61.175</td> <td>192.168.1.107</td> <td>UDP</td> <td>86</td> <td>27017 → 62062 Len=</td> </tr> <tr> <td>221</td> <td>11:02:11.079837</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>82</td> <td>62062 → 27017 Len=</td> </tr> <tr> <td>230</td> <td>11:02:11.186021</td> <td>72.165.61.175</td> <td>192.168.1.107</td> <td>UDP</td> <td>122</td> <td>27017 → 62062 Len=</td> </tr> <tr> <td>231</td> <td>11:02:11.186051</td> <td>72.165.61.175</td> <td>192.168.1.107</td> <td>UDP</td> <td>78</td> <td>27017 → 62062 Len=</td> </tr> <tr> <td>238</td> <td>11:02:11.205349</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>242</td> <td>62062 → 27017 Len=</td> </tr> <tr> <td>241</td> <td>11:02:11.325967</td> <td>72.165.61.175</td> <td>192.168.1.107</td> <td>UDP</td> <td>102</td> <td>27017 → 62062 Len=</td> </tr> <tr> <td>242</td> <td>11:02:11.330424</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>302</td> <td>62062 → 27017 Len=</td> </tr> <tr> <td>243</td> <td>11:02:11.330681</td> <td>192.168.1.107</td> <td>72.165.61.175</td> <td>UDP</td> <td>414</td> <td>62062 → 27017 Len=</td> </tr> </tbody> </table>	No.	Time	Source	Destination	Protocol	Length	Info	107	11:02:10.596932	192.168.1.107	72.165.61.175	UDP	78	62062 → 27018 Len=	137	11:02:10.702926	72.165.61.175	192.168.1.107	UDP	86	27018 → 62062 Len=	167	11:02:10.768712	192.168.1.107	72.165.61.175	UDP	78	62062 → 27017 Len=	192	11:02:10.874142	72.165.61.175	192.168.1.107	UDP	86	27017 → 62062 Len=	221	11:02:11.079837	192.168.1.107	72.165.61.175	UDP	82	62062 → 27017 Len=	230	11:02:11.186021	72.165.61.175	192.168.1.107	UDP	122	27017 → 62062 Len=	231	11:02:11.186051	72.165.61.175	192.168.1.107	UDP	78	27017 → 62062 Len=	238	11:02:11.205349	192.168.1.107	72.165.61.175	UDP	242	62062 → 27017 Len=	241	11:02:11.325967	72.165.61.175	192.168.1.107	UDP	102	27017 → 62062 Len=	242	11:02:11.330424	192.168.1.107	72.165.61.175	UDP	302	62062 → 27017 Len=	243	11:02:11.330681	192.168.1.107	72.165.61.175	UDP	414	62062 → 27017 Len=
No.	Time	Source	Destination	Protocol	Length	Info																																																																															
107	11:02:10.596932	192.168.1.107	72.165.61.175	UDP	78	62062 → 27018 Len=																																																																															
137	11:02:10.702926	72.165.61.175	192.168.1.107	UDP	86	27018 → 62062 Len=																																																																															
167	11:02:10.768712	192.168.1.107	72.165.61.175	UDP	78	62062 → 27017 Len=																																																																															
192	11:02:10.874142	72.165.61.175	192.168.1.107	UDP	86	27017 → 62062 Len=																																																																															
221	11:02:11.079837	192.168.1.107	72.165.61.175	UDP	82	62062 → 27017 Len=																																																																															
230	11:02:11.186021	72.165.61.175	192.168.1.107	UDP	122	27017 → 62062 Len=																																																																															
231	11:02:11.186051	72.165.61.175	192.168.1.107	UDP	78	27017 → 62062 Len=																																																																															
238	11:02:11.205349	192.168.1.107	72.165.61.175	UDP	242	62062 → 27017 Len=																																																																															
241	11:02:11.325967	72.165.61.175	192.168.1.107	UDP	102	27017 → 62062 Len=																																																																															
242	11:02:11.330424	192.168.1.107	72.165.61.175	UDP	302	62062 → 27017 Len=																																																																															
243	11:02:11.330681	192.168.1.107	72.165.61.175	UDP	414	62062 → 27017 Len=																																																																															

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
	<p>Dota 2 uses commands such as below to retrieve the profile.</p> <p style="text-align: center;">dota2 Documentation <i>Release 0.2.11</i></p> <pre>class dota2.enums.EGCItemMsg EMsgGCAdjustItemEquippedState = 1059</pre> <p>The above request operates for any of a plurality of CE network sites, enabling a user to retrieve a previously stored character profile from the database using the associating information.</p> <p>Dota 2 includes multiple CE-enabled network sites as there are multiple servers for placing a user into an instance of the game. See, e.g., VALVE_TH_00000117-124. A Game Master Server (GMS) maintains a list of currently running Servers for source games, such as Dota 2. VALVE_TH_0002127. An exemplary list of Dota 2 servers is shown below, with corresponding IP addresses.</p> <div style="border: 1px solid black; padding: 10px;"> <p>Here are the list of IP and Address of Dota 2 Servers:</p> <ul style="list-style-type: none"> • syd.valve.net - Australia (Sydney) • 200.73.67.1 - Chile (Santiago) • dxb.valve.net - Dubai (UAE) • vie.valve.net - Europe East 1 (Vienna, Austria) • 185.25.182.1 - Europe East 2 (Vienna, Austria) • lux.valve.net - Europe West 1 (Luxembourg) • 146.66.158.1 - Europe West 2 (Luxembourg) • 116.202.224.146 - India (Kolkata) • 191.98.144.1 - Peru (Lima) • sto.valve.net - Russia 1 (Stockholm, Sweden) • 185.25.180.1 - Russia 2 (Stockholm, Sweden) • sgp-1.valve.net - SE Asia 1 (Singapore) • sgp-2.valve.net - SE Asia 2 (Singapore) • cpt-1.valve.net - South Africa 1 (Cape Town) • 197.80.200.1 - South Africa 2 (Cape Town) • 197.84.209.1 - South Africa 3 (Cape Town) • 196.38.180.1 - South Africa 4 (Johannesburg) • gru.valve.net - South America 1 (Sao Paulo) • 209.197.25.1 - South America 2 (Sao Paulo) • 209.197.29.1 - South America 3 (Sao Paulo) • iad.valve.net - US East (Sterling, VA) • eat.valve.net - US West (Seattle, WA) </div> <p>Dota 2 servers are further listed and described at VALVE_TH_0000339-46 (particularly at 42-43).</p> <p>Users can navigate to various sites on the network. In addition to the employment of different servers as noted above, the user can navigate from the Dota2 home page to a variety of game servers by selecting FIND MATCH (see button at lower right in the image below) and then Dota 2 finds an appropriate server on which to play the selected type of match.</p>

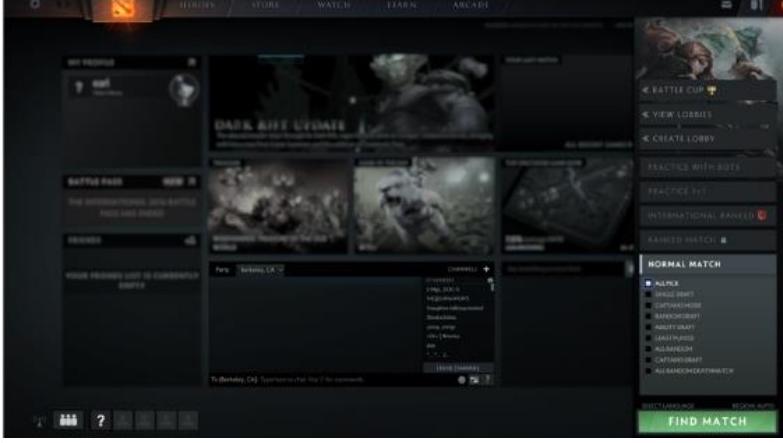
CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 21	Dota 2
	
	<p>For example, a user may log in and create a character profile while interacting with a first CE network site (for example, at 162.254.193.46 as shown above). The character profile is stored in a manner that is associated with the user, as described above. Thereafter, the user may login to a different CE network site (for example, 72.165.61.175) and upon request to access the different network site the user is enabled to retrieve the previously stored character profile, even if created when accessing the first CE network site. The same result applies for other CE network sites such as listed above. This is presented, for example, in the images below.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>First, while logged into Steam CE network site in Canada (the Game Coordinator) with the IP address 162.254.193.46, Dragon Knight was equipped with the Dragon's Soul sword and with the Wyrm Bracers of Uldorak</p> </div> <div style="text-align: center;">  <p>After, user has logged into CE network site (the Game Coordinator) with the IP address 72.165.61.175, and Dota 2 client has downloaded the previously created profile of the Dragon Knight from the Game Coordinator</p> </div> </div>

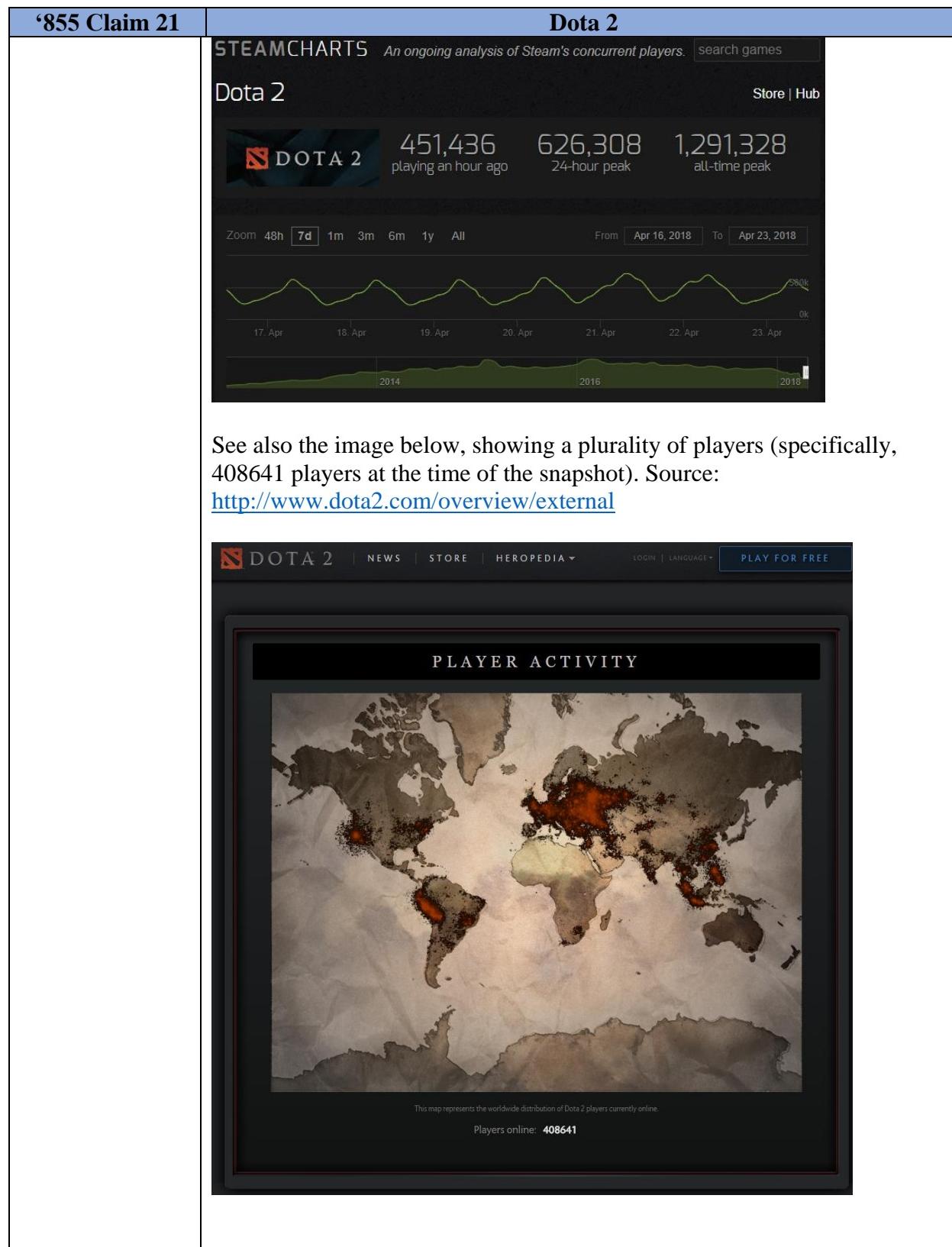
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
<p>e. if said user has previously created a character profile, retrieving said character profile from said database and causing said character to be displayed on said CE network site on said device of said user; and</p>	<p>See the discussion in the limitations above, which further show a previously created character profile being retrieved from the database. In each case, the corresponding images are screen displays on a user device, while the user is within a character-enabled network site, thereby causing the character to be displayed on the CE network site on the device of the user.</p> <p>See, for example, the images below.</p>  <p>First, while logged into Steam CE network site in Canada (the Game Coordinator) with the IP address 162.254.193.46, Dragon Knight was equipped with the Dragon's Soul sword and with the Wyrn Bracers of Uldorak</p>  <p>After, user has logged into CE network site (the Game Coordinator) with the IP address 72.165.61.175, and Dota 2 client has downloaded the previously created profile of the Dragon Knight from the Game Coordinator</p>

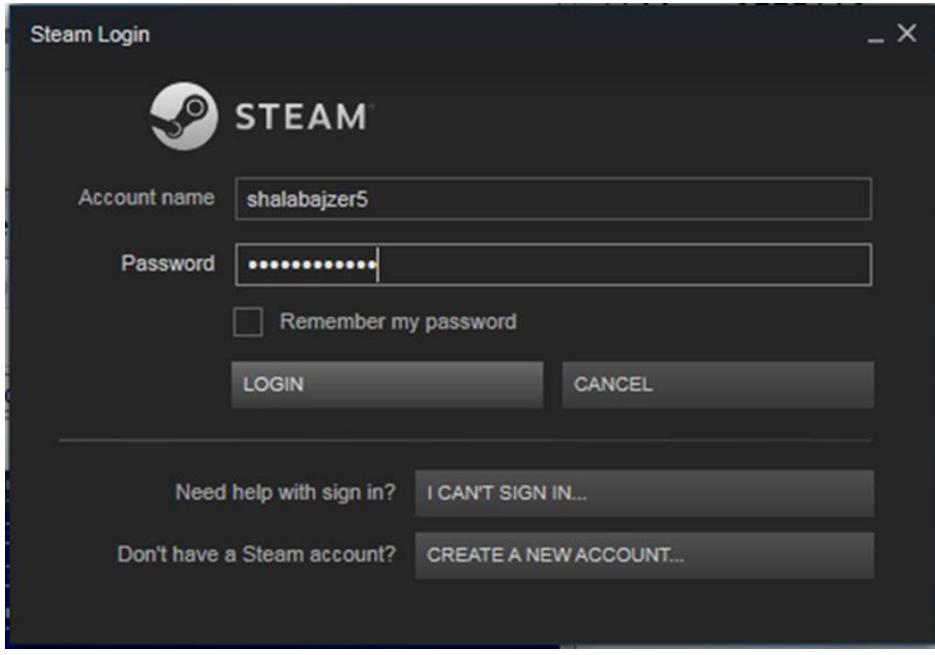
**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 21	Dota 2
<p>f. repeating steps a through e for a plurality of users.</p>	<p>Dota 2 uses Game Coordinator servers, as part of the Steam Economy as described above with respect to claim 1. The server handles login information for a large plurality of users, and keeps track of items such as heroes (characters) and character attributes that have been previously selected by each user. The process for the plurality of users is the same as described above. See the description below. (Source: http://blog.dota2.com/2013/06/transitioning-into-launch-mode).</p> <div style="background-color: #333; color: white; padding: 10px;"> <p>First, we have a server called the Game Coordinator (or GC), which is really a number of different servers that all collectively handle the backend work that Dota 2 needs (with the exception of hosting actual games). This is the server that handles your Dota 2 login, determines who you will play against in matchmaking, keeps track of where all of your items are stored, and many other functions. This also means that as we increase the number of users, this server needs to scale up. We think we're in pretty good shape for adding a pretty large number of users from the GC's perspective (we could at least double in total concurrent users), but it's one of the areas we'll be keeping an eye on as the audience grows.</p> </div> <p>Users can navigate to various sites on the network. In addition to the employment of different servers as noted above, the user can navigate from the Dota2 home page to a variety of game servers by selecting FIND MATCH (see button at lower right in the image below) and then Dota 2 finds an appropriate server on which to play the selected type of match.</p>  <p>Dota 2 engages a plurality of users. See the image below, showing the number of current players, and number of players at various points in time. Source: http://steamcharts.com/app/570</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE



**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 22	Dota 2
22. The method of claim 21 wherein said associating information is selected from the group consisting of: a user-assigned name for said character, a password, an IP Address, a name, an address, an email address, a zip code, information on said user's device, and combinations thereof.	<p>As described above with respect to claim 21, a user must login with a user name, or Account name, and a password. See for example the screen image below.</p>  <p>A user may also assign a name to a custom character profile, associating the name with the profile. For example, the user may create a custom set as shown below.</p>  <p>The user may then enter a Set Name" in the field above, and as shown in the image below in which the name DragonKnightWurmSoul has been entered.</p>

CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY AND/OR HIGHLY CONFIDENTIAL SOURCE CODE

'855 Claim 22	Dota 2
	 <p>The user-defined profile, associated with the above name, thereafter appears among the character profiles associated with the user, and in this case associated with the particular name, as shown below.</p> 

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 23	Dota 2
<p>23. The method of claim 22 wherein said character profile is automatically retrieved by said CE network site upon entering said CE network site.</p>	<p>As noted in the excerpt below, the Game Coordinator handles the login and tracking of stored items.</p> <p>First, we have a server called the Game Coordinator (or GC), which is really a number of different servers that all collectively handle the backend work that Dota 2 needs (with the exception of hosting actual games). This is the server that handles your Dota 2 login, determines who you will play against in matchmaking, keeps track of where all of your items are stored, and many other functions. This also means that as we increase the number of users, this server needs to scale up. We think we're in pretty good shape for adding a pretty large number of users from the GC's perspective (we could at least double in total concurrent users), but it's one of the areas we'll be keeping an eye on as the audience grows.</p>

Dota 2 further uses the Steam Economy, which stores the character profile information in a database, and as described above retrieves it in an exchange of packets between the CE network site and the user after entering the CE network site.

“The Steam Economy is our name for a set of features that allow in-game items from multiple games to work together in a single shared system in Steam. In-game items in the Steam Economy can be purchased via microtransactions, earned from Steam Achievements, delivered in-game, or granted in response to various kinds of promotions. Users can view their in-game inventories in the Steam Community, include links to items in chat sessions, and trade items with other users. Steam provides the user-interface and the heavy lifting for these features, but leaves the game itself in complete control of the items themselves.” VALVE_TH_0001324-26.

“In-game items in the Steam Economy are called **Assets** and can represent anything a user can own in a game. Some examples are ...**character**...” *Id.* (emphasis added).

“In order to add a game to the Steam Economy a few requirements must be met. The game must have an asset back-end that is not stored on the game client. Some kind of **database** that lives in a datacenter will be required.” *Id.*

With reference to claim 21 above, the character profile is shown as being retrieved. The process described in limitations d and e, including the EMsgGCAdjustItemEquippedState message, occur automatically and without any input from the user after login. When a user chooses a Hero which was previously customized, the hero is automatically shown with the customizations.

**CONFIDENTIAL: CONTAINS INFORMATION DESIGNATED AS CONFIDENTIAL OUTSIDE COUNSEL ONLY
AND/OR HIGHLY CONFIDENTIAL SOURCE CODE**

'855 Claim 24	Dota 2
24. The method of claim 21 wherein said user's device comprises a device selected from the group consisting of a personal computer, a mobile phone and a handheld device.	The images above, captured when interacting with Dota 2, are taken from personal computer screens.